



## ecology and environment, inc.

International Specialists in the Environment

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December 10, 2010

Calvin Terada, On-Scene Coordinator  
United States Environmental Protection Agency, Region 10  
1200 Sixth Avenue, ECL-116  
Seattle, Washington 98101

RE: Contract No. EP-S7-06-02, Technical Direction Document No. 06-09-0002  
Final Removal Evaluation Report, Euclid Road TCE Monitoring Site  
Reardan, Washington

Dear Mr. Terada:

Enclosed please find the final Removal Evaluation Report for the Euclid Road TCE Monitoring Site located near Reardan, Washington. This version incorporates EPA comments. If you have any further questions or comments, please contact Mark Woodke at (206) 624-9537 or me at (206) 920-1739.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Steven G. Hall  
START-3 Project Leader

enclosure

cc: Mark Woodke, E & E, START-3 Project Manager, Seattle, WA

# REMOVAL EVALUATION REPORT

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**Euclid Road TCE Monitoring Site**

**Reardan, Washington**

**TDD: 06-09-0002**



Prepared for:

U.S. Environmental Protection Agency, Region 10

1200 Sixth Avenue

Seattle, Washington 98101

Prepared by:

Ecology and Environment, Inc.

720 Third Avenue, Suite 1700

Seattle, Washington 98104

December 2010



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## Executive Summary

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Ecology & Environment, Inc. (E & E) was tasked by the United States Environmental Protection Agency (EPA) to conduct a Removal Evaluation at the Euclid Road Groundwater and Euclid Road Trichloroethene Monitoring sites which are located in Spokane County near Reardan, Washington. Field work for these projects was conducted from March 2006 through June 2009. The projects focused on potential *n*-nitroso-dimethylamine (NDMA), perchlorate, and trichloroethene (TCE) contamination in monitoring wells and residential wells in the Euclid Road area.

E & E was originally tasked to evaluate the impact of an unknown source of TCE on groundwater. A groundwater sample collected from the Euclid Road area for a separate EPA project was contaminated with 130 micrograms per liter ( $\mu\text{g/L}$ ) of TCE which exceeded the maximum contaminant level for TCE of 5  $\mu\text{g/L}$ . This contamination was located near several residential drinking water wells believed to be screened in the same aquifer. Samples were also collected for NDMA and perchlorate analyses due to the nearby location of a former Nike missile launching site.

The initial project boundary was the immediate Euclid Road area, but the boundary was expanded several times during the project based on sampling results to include approximately 35 square miles. Fourteen rounds of field sampling activities were conducted during the project. A total of 478 field samples were collected from 128 separate, primarily residential, properties, including groundwater sample collection from eight monitoring wells and whole air sample collection from two residences. NDMA was detected in 44 domestic wells and perchlorate was detected in 112 domestic wells. TCE was detected in four domestic wells and in five monitoring wells at concentrations up to 240  $\mu\text{g/L}$ . TCE was detected in whole air samples in each of the two sampled residences. The sources of these contaminants are unknown, but it is possible that the NDMA and perchlorate results are naturally occurring. The positive TCE results are all located within approximately 0.5 mile of each other near Euclid Road.

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## List of Abbreviations

bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
DQOs	Data quality objectives
E & E	Ecology & Environment, Inc.
Ecology	Washington Department of Ecology
EPA	United States Environmental Protection Agency
ERGW	Euclid Road Groundwater
ERTM	Euclid Road TCE Monitoring
GIS	Geographic information system
GPS	Global positioning system
HEC	Herrera Environmental Consultants, Inc.
HHMSSL	Human Health Medium-Specific Screening Level
J	Estimated quantity
MCL	Maximum contaminant level
µg/L	micrograms per liter
mg/kg	Milligrams per kilogram
MS	Matrix spike
MSD	Matrix spike duplicate
MTCA	Model Toxics Control Act
MW	Monitoring well
NDMA	<i>n</i> -Nitrosodimethylamine
Nike	Fairchild Nike Battery 87
OSC	On-Scene Coordinator
% R	percent recovery
PA	Preliminary Assessment
QA	Quality Assurance



## List of Abbreviations and Acronyms (cont.)

QC	Quality Control
RA	Removal Assessment
RE	Removal Evaluation
RPD	Relative percent difference
RS	Removal Support
SARA	Superfund Amendments and Reauthorization Act
SI	Site Inspection
SOP	Standard Operating Procedure
SSID	Site Spill Identification
SSSPs	Site-Specific Sampling Plans
START	Superfund Technical Assessment and Response Team
SVOCs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCE	Trichloroethene
TDD	Technical Direction Document
UDMH	Unsymmetrical dimethyl hydrazine
VOC	Volatile Organic Compound

The United States Environmental Protection Agency (EPA), Region 10, Office of Environmental Cleanup has tasked Ecology & Environment, Inc. (E & E), under Superfund Technical Assessment and Response Team (START)-3 contract number EP-S7-06-02, to conduct Removal Support (RS) and Removal Assessment (RA) activities for the Euclid Road Groundwater (ERGW) and Euclid Road Trichloroethene (TCE) Monitoring investigations under Technical Direction Document (TDD) numbers 06-03-0009 and 06-09-0002, respectively, in Spokane County near Reardan, Washington. This project was conducted under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA).

The START conducted the ERGW RS work from March 2006 through June 2007 and conducted the Euclid Road TCE Monitoring (ERTM) RA work from September 2006 through June 2009. The ERGW RS initially focused on *n*-Nitrosodimethyl-amine (NDMA), perchlorate, and TCE contamination in monitoring and residential wells in the Euclid Road area potentially associated with the U. S. Air Force Fairchild Nike Battery 87 (Nike) missile site, but TCE sampling efforts were switched to the ERTM project in September 2006. Field work on both projects was often conducted concurrently between September 2006 and June 2007. This removal evaluation (RE) report is written under TDD 06-09-0002 but covers work on both projects.

Based on the above information, the START was tasked by the EPA On-Scene Coordinator (OSC) to:

- Develop Site-Specific Sampling Plans (SSSPs) to characterize NDMA, perchlorate, and TCE contamination in the wells;
- Collect samples at the site from the monitoring and domestic wells to evaluate the current concentrations of NDMA, perchlorate, and TCE;
- Arrange for commercial laboratory analyses for the samples collected at the site; and
- Write an RE report detailing the results.

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## 2

## Site Description and Background

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This section describes the site location (subsection 2.1), provides the site ownership history (subsection 2.2), describes the surrounding area (subsection 2.3), discusses operations at the site (subsection 2.4), and discusses previous site investigations (subsection 2.5).

### 2.1 Site Description

The Euclid Road sites are centered on the Euclid Road area east of Reardan, Washington (Figure 2-1). The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) identification number for the sites is WAN001002626 and the site spill identification (SSID) number is 10DP. The approximate final boundaries of the sampled wells include the area 0.75 mile north of Jacobs Road on the North, State Highway 2 on the south, Ritchey Road on the east, and Christensen Road on the west. Additional wells were sampled outside this area to determine background concentrations.

### 2.2 Owner and Operator

The Nike missile site was in operation from 1956 to 1965 (HEC 2006). The current owners of the former Nike control area and the Euclid well (the former Nike control area water supply located on Euclid Road) are (b) (6) (HEC 2006). The former Nike launch site is owned by Northwest Microfilms, Inc. The property owners of the other sampled locations are listed in Table 2-1 and all sampled locations are found on Figure 2-2.

### 2.3 Surrounding Areas

The site lies within the Columbia River basin in the northeast corner of the 55,000 square mile Columbia Plateau. Surface topography at the site and surrounding area is generally flat, with gently rolling hills that slope down to the east-northeast. Based on a review of over 60 geologic logs for wells drilled within 1.5 miles of the Euclid well, the site geology generally consists of bedrock (basalt) occurring within one to four feet below ground surface (bgs), with some excep-

tions where sand, gravel, or clay may extend to 20 feet bgs. The basalt is fractured in some areas, dense in other areas, and occasionally contains clay layers. Springs occur in drainage channels located 1,000 feet north and 1,200 feet south of the Euclid well. (HEC 2006)

The land surrounding the ERGW site is used for agricultural and residential purposes. The former Nike missile launch site is located approximately two miles south of the Euclid well. This location is upgradient of the Euclid well (HEC 2006).

## **2.4 Site Operations**

The Nike site is a former surface-to-air Nike Ajax and Hercules missile site that was used for the storage, assembly, launching, and control of guided missiles in conjunction with the national air defense system (USACE 1989).

The Nike site consisted of a control area and a launcher site that were separated by approximately 3 miles (Figure 2-1). The Euclid well is located between the two areas at a formerly proposed Nike housing location; the housing was never constructed. The Euclid well is located approximately 4.5 miles northwest of Fairchild Air Force Base (Figure 2-2) and was installed by the military in the late 1950s during construction of the Nike site. Water from the Euclid well was piped approximately 2.5 miles into a holding tank at the Nike Launch Control Area. The Euclid well property is currently unoccupied, but has been previously rented for residential use and the land used for raising livestock. (HEC 2006)

Specific information concerning waste characteristics and site operations at the former Fairchild Nike Battery 87 site is limited; waste disposal activities during the time of operation are unknown (Ecology 2001). During a site reconnaissance conducted in June 1999, Washington Department of Ecology (Ecology) representatives were unable to identify any landfills or pits at the launcher or control areas (Ecology 1999). Based on historical site operations, there is no documented evidence of TCE or other volatile organic compound (VOC) usage in the vicinity of the Euclid well. NDMA and perchlorate are known to be associated with rocket fuels (EPA 2006), although there are other uses for these chemicals.

## 2.5 Previous Investigations

In October 2004, EPA START-2 contractor Herrera Environmental Consultants, Inc. (HEC) performed sampling for the Fairchild Nike Battery 87 preliminary assessment/site inspection (PA/SI) to investigate potential environmental issues at the Nike launcher and control sites. As a part of this sampling effort, HEC collected a groundwater sample from the Euclid well as a measure of background water quality based on the well's location relative to the former Nike launcher and control areas. TCE was detected in the Euclid well at a concentration of 130 micrograms per liter ( $\mu\text{g/L}$ ), exceeding the Washington Model Toxics Control Act (MTCA) Method A groundwater cleanup level and federal Maximum Contaminant Level (MCL) of 5  $\mu\text{g/L}$ , based on applicable state (WAC 246-290-310) and federal (40 CFR 141.61) laws. Detection of TCE in the Euclid well became the basis for designation of the ERGW and ERTM investigations. (HEC 2006)

In response to the TCE detection, EPA conducted a PA/SI of the former control and launcher areas in October 2004 (HEC 2005). A total of 19 samples, including background and quality assurance (QA), were collected from potential hazardous substance sources and target areas potentially impacted by contaminant migration. Sample locations included areas of stressed vegetation, debris swales, site soils, and sediments, as well as groundwater, surface water, and sediments down slope of potential sources. Results of the 2004 PA/SI indicated no significant concentrations of target analyte list (TAL) metals, semivolatile organic compounds (SVOCs), VOCs, unsymmetrical dimethyl hydrazine (UDMH), or perchlorate present in soils, sediment, or groundwater at the Fairchild Nike Battery 87 site. Motor oil was detected in one soil sample at the launcher area at a concentration of 204 milligrams per kilogram ( $\text{mg/kg}$ ), below the MTCA Method A soil cleanup level of 2,000  $\text{mg/kg}$ . TCE was detected in the Euclid well (collected as a background sample) at a concentration of 130  $\mu\text{g/L}$ . (HEC 2006)

Because no TCE was detected in potential source areas at either the Nike launcher or control sites, EPA performed additional sampling to further investigate the presence of TCE in the Euclid well. The presence of TCE in the Euclid well was confirmed at a concentration of 130  $\mu\text{g/L}$  as a result of START resampling conducted in February 2005, which is the same concentration detected during the October 2004 sampling. TCE was not detected in another well located 1,200 feet to the southwest, but was detected at a very low concentration in a well located 1,200 feet to the northwest. (HEC 2006)

Based on the February 2005 sampling results, the HEC START initiated the Euclid Road Groundwater PA/SI (HEC 2006). A review of drilling well logs on file at Ecology was conducted, covering a 1.3-mile radius from the Euclid well. Sixty-four well logs were reviewed, ranging in depth from 60 to 420 feet bgs, and sampling was performed in June 2005 at selected locations. Groundwater samples were collected from nine domestic wells located within a 1-mile radius of the Euclid well, including a background water sample collected from the (b) (6) well, located approximately 2,700 feet west of the Euclid well. TCE was detected in three of the nine samples at concentrations of 1.2 µg/L in both the Hutterite chicken and livestock wells and 47 µg/L in the (b) (6) well. The detection of TCE in the (b) (6) well, located 700 feet southwest of the Euclid well, resulted in further investigation and an emergency response, which included additional sampling of area domestic wells, the installation of monitoring wells to determine local groundwater conditions, and the installation of water treatment systems at residences impacted by the TCE contamination. (HEC 2006)

Four monitoring wells were installed near the Euclid well between November 7 and 9, 2005, to depths ranging from 66 to 113.5 feet bgs. Water-bearing fractured zones were encountered within the weathered basalt in each of the well borings at depths ranging from 57 to 96 feet bgs. The static water levels measured in each of the wells ranged from 38.50 to 86.88 feet bgs, indicating confined groundwater conditions (a potentiometric surface above the depth of water first encountered during drilling). A potentiometric surface contour map created for the project indicated groundwater flow to the east-southeast. The groundwater gradient generally mimics topography and steepens in the vicinity of the (b) (6) spring. Monitoring well ERMW-3 (listed as MW03 by E & E) is located adjacent to the Hutterite livestock well and water sample analyses from these wells detected respective TCE concentrations of 140 and 1.2 µg/L. The Hutterite well was drilled and cased to 300 feet bgs with no well screen and well ERMW-3 was drilled to 113.5 feet and screened from 93.5 to 113.5 feet bgs. The disparity in these results indicated TCE is moving through the uppermost water-bearing zone and communication of multiple water-bearing zones in the Hutterite well results in lower TCE concentrations from dilution. (HEC 2006)

Sampling results from the monitoring wells installed during the emergency response indicated concentrations of TCE ranging from 3.9 to 140 µg/L. The TCE concentration of 140 µg/L de-

tected in well ERMW-3, located 700 feet upgradient from the Euclid well, was the highest concentration of TCE detected of all area sampling performed to that time. The report indicated that, based on topography and TCE detected in well ERMW-3, a possible source could be incidental dumping along North Wood Road northwest of the well. (HEC 2006)

The RS and RA activities by E & E/START-3 discussed herein are continuations of quarterly groundwater monitoring initiated in November 2005, under TDD 03-08-0009 by HEC as the START-2 contractor to EPA. See Table 2-2 for a summary of historical sample locations and results and Figure 2-3 for historical sample results.

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06030901	(b) (6)	2118 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	3/28/2006	09:50	X		X	X	47.67767	117.70769	Indoor faucet
06030902		2620 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	3/28/2006	10:15	X		X	X	47.68212	117.71086	Outdoor spigot
06030903		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	3/28/2006	10:45	X		X	X	47.68476	117.71757	Outdoor spigot
06030904	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	30.9	MW	3/28/2006	13:50	X		X	X	47.68931	117.72276	Monitoring well
06030905	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	63.12	MW	3/28/2006	14:25	X		X	X	47.68714	117.72525	Monitoring well
06030906	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	79.7	MW	3/28/2006	14:55	X		X	X	47.68705	117.72233	Monitoring well
06030907	(b) (6) (MW04)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	59.81	MW	3/28/2006	15:30	X		X	X	47.68624	117.72246	Monitoring well
06030910	Trip Blank 1	na	Water	Grab	na	AJ	3/28/2006	07:00				X	na	na	Trip blank
06030911	(b) (6)	23717 West Bowie Lane Reardan, WA 99029	GW	Grab	na	MW	3/28/2006	11:05	X		X	X	47.69984	117.73540	Outdoor spigot
06040001	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	4/15/2006	10:29	X		X		47.69099	117.72431	Indoor kitchen faucet
06040002	(b) (6) (Euclid Well)	22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	10:48	X		X	X	47.68708	117.72184	Outdoor spigot
06040003	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	11:07	X		X	47.68479	117.72092	Outdoor spigot	
06040004		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	11:15	X		X	47.68483	117.71691	Outdoor spigot	
06040005		22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	11:28	X		X	X	47.68573	117.71216	Outdoor spigot
06040006		23717 West Bowie Lane Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	12:22	X		X	47.69984	117.73540	Outdoor spigot	
06040007		4202 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	4/15/2006	12:35	X		X	X	47.69985	117.72145	Outdoor spigot <sup>b</sup>
06040008		3207 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	12:50	X		X	X	47.68882	117.73321	Outdoor spigot
06040009		6215 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	13:20	X		X	X	47.71396	117.73346	Outdoor spigot
06040010		23912 West Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	13:35	X		X	X	47.71676	117.73595	Outdoor spigot
06040011		1616 North Ritchey Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	14:40	X		X	47.67315	117.71043	Outdoor spigot	



Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06040012	(b) (6)	2118 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	4/15/2006	15:10	X		X	47.67767	117.70769	Indoor faucet	
06040013		2620 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	4/15/2006	15:30	X		X	47.68212	117.71086	Outdoor spigot	
06040014		23505 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	15:50	X		X	47.66339	117.73085	Outdoor spigot	
06040015		23103 West Alki Lane Reardan, WA 99029	GW	Grab	60	JF	4/15/2006	16:00	X		X	47.66344	117.72662	Outdoor spigot	
06040016		23322 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	16:20	X		X	47.66371	117.72939	Outdoor spigot	
06040017		110 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	4/15/2006	16:30	X		X	47.65876	117.70988	Outdoor spigot	
06040018		22812 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	16:50	X		X	47.65831	117.72241	Outdoor spigot	
06040019		22910 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/15/2006	17:10	X		X	47.65825	117.72346	Outdoor spigot	
06040025	Trip Blank 2	na	Water	Grab	na	JF	4/15/2006	07:00				X	na	na	Trip blank
06050901	(b) (6)	6504 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	09:00	X		X	X	47.71885	117.73058	Outdoor spigot
06050902		6712/6814 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	10:10	X		X	X	47.72102	117.73154	Outdoor spigot (shared well)
06050903		6610 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	09:40	X		X	X	47.71907	117.73133	Outdoor spigot
06050904		6814 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	09:20	X		X	X	47.71822	117.73080	Spigot in shed
06050905		7006 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	10:30	X		X	X	47.72251	117.73170	Spigot in well house
06050906		7111 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	10:50	X		X	X	47.72378	117.73314	Outdoor spigot
06050907		7123 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	5/26/2006	11:10	X		X	X	47.72425	117.73339	Outdoor spigot
06050911	Trip Blank 3	na	Water	Grab	na	JF	5/26/2006	08:00				X	na	na	Trip blank
06060901	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	MW	6/22/2006	11:00	X		X	X	47.68931	117.72276	Monitoring well
06060902	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	na	MW	6/22/2006	11:50	X		X	X	47.68714	117.72525	Monitoring well
06060903	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	MW	6/22/2006	15:30	X		X	X	47.68705	117.72233	Monitoring well
06060904	(b) (6) (MW04)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/22/2006	13:00	X		X	X	47.68624	117.72246	Monitoring well

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06060905	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/22/2006	13:15	X			X	47.68493	117.72092	Outdoor spigot
06060907		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	13:00	X		X	X	47.68567	117.72351	Outdoor frost free (untreated)
06060908		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/22/2006	13:45	X		X	X	47.68476	117.71757	Outdoor spigot
06060909		2620 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	09:30	X		X	X	47.68212	117.71086	Outdoor spigot
06060911		23912 West Jacobs Road Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	11:20	X		X	X	47.71676	117.73595	Outdoor spigot
06060912		1616 North Ritchey Road Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	13:50	X		X	X	47.67315	117.71043	Outdoor spigot
06060913		2819B North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	14:25	X		X	X	47.68437	117.71195	Outdoor spigot
06060914		2819A North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	14:20	X		X	X	47.68377	117.71243	Outdoor spigot
06060915		6310 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	12:50	X		X	X	47.71654	117.73112	Outdoor spigot
06060918		21818 West Highway 2 Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	10:45	X		X	X	47.64403	117.70888	Outdoor spigot
06060919		1607 South Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	08:30	X		X	X	47.64046	117.70811	Outdoor spigot
06060920		1509 South Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	08:20	X		X	X	47.64151	117.70769	Outdoor spigot
06060921		23504 West Alki Lane Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	09:00	X		X	X	47.66430	117.73072	Outdoor spigot
06060922		3526 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	09:55	X		X	X	47.68998	117.70497	Outdoor spigot
06060923		4101 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/23/2006	10:05	X		X	X	47.69176	117.70195	Outdoor spigot
06060924		22025 West Jacobs Road Spokane, WA 98224	GW	Grab	na	MW	6/22/2006	21:08	X		X	X	47.71572	117.71145	Outdoor spigot
06060925		22311 West Jacobs Road Reardan, WA 99029	GW	Grab	na	MW	6/22/2006	21:25	X		X	X	47.71516	117.71471	Outdoor spigot
06060926		22315 North Jacobs Road Reardan, WA 99029	GW	Grab	na	MW	6/22/2006	21:35	X		X	X	47.71269	117.71543	Outdoor spigot
06060927		25512 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	07:10	X		X	X	47.68904	117.75491	Outdoor spigot
06060928		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/23/2006	13:15	X		X	X	na	na	Outdoor spigot (treated)

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06060929	Trip Blank 4	na	Water	Grab	na	MW	6/22/2006	08:00				X	na	na	Trip blank
06060930	Trip Blank 5	na	Water	Grab	na	MW	6/22/2006	08:00				X	na	na	Trip blank
06060801	(b) (6)	1209 South Central Avenue Medical Lake, WA 99022	GW	Grab	na	MW	6/25/2006	19:15	X		X	X	47.64423	117.70924	Indoor faucet <sup>b</sup>
06060802		22312 West State Route 2 Reardan, WA 99029	GW	Grab	na	MW	6/25/2006	19:25	X		X	X	47.64399	117.72414	Outdoor spigot
06060803		25313 West Coulee Hite Reardan, WA 99029	GW	Grab	na	MW	6/25/2006	19:50	X		X	X	47.74239	117.75555	Outdoor spigot
06060804		4020 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/25/2006	20:20	X		X	X	47.69496	117.71005	Outdoor spigot <sup>b</sup>
06060805		3912 North Ritchey Road Medical Lake, WA 98022	GW	Grab	na	MW	6/25/2006	20:40	X		X	X	47.69353	117.71008	Outdoor spigot
06060806		3312 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	MW	6/25/2006	20:50	X		X	X	47.68800	117.71030	Outdoor spigot
06060807		25512 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	07:40	X		X	X	47.68940	117.75522	Outdoor spigot
06060808		8018 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	08:00	X		X	X	47.73328	117.72657	Outdoor spigot <sup>b</sup>
06060809		6003 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	08:45	X		X	X	47.70894	117.73705	Spigot in well house
06060810		718 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	09:15	X		X	X	47.65126	117.68497	Outdoor spigot
06060811		716 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	09:25	X		X	X	47.65203	117.68536	Outdoor spigot
06060812		20003 West Steinmetz Lane Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	09:35	X		X	X	47.65227	117.68426	Outdoor spigot
06060813		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	10:15	X		X	X	47.70282	117.74151	Post treatment system
06060814		22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	10:25	X		X	X	47.68710	117.72109	Spigot in well house
06060815		717 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	10:50	X		X	X	47.64980	117.68339	Outdoor spigot <sup>b</sup>
06060816		22110 West State Route 2 Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	12:15	X		X	X	47.64366	117.71289	Indoor faucet
06060817		22100 West State Route 2 Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	12:30	X		X	X	47.64400	117.71407	Indoor faucet <sup>b</sup>
06060818		22012 West State Route 2 Medical Lake, WA 99029	GW	Grab	na	MW	6/26/2006	12:45	X		X	X	47.64365	117.71134	Outdoor spigot
06060819		21816 West State Route 2 Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	13:00	X		X	X	47.64388	117.70921	Outdoor spigot

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**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06060820	(b) (6)	21816 West State Route 2 Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	13:20	X		X	X	47.64439	117.70969	Outdoor spigot
06060821		2701 North Brooks Road Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	13:40	X		X	X	47.68538	117.68931	Outdoor spigot
06060822		2220 Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	14:00	X		X	X	47.67903	117.69774	Outdoor spigot
06060823		23304 West Jacobs Road Spokane, WA 99224	GW	Grab	na	MW	6/26/2006	14:20	X		X	X	47.71679	117.72845	Outdoor spigot
06060824		22905 West Jacobs Road Spokane, WA 99224	GW	Grab	na	MW	6/26/2006	14:40	X		X	X	47.71583	117.71884	Outdoor spigot
06060825		22205 West Jacobs Road Spokane, WA 99224	GW	Grab	na	MW	6/26/2006	15:00	X		X	X	47.71540	117.71355	Outdoor spigot
06060826		23324 West Sprague Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	15:20	X		X	X	47.65930	117.72940	Indoor faucet
06060827		23212 West Sprague Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	15:45	X		X	X	47.65929	117.72792	Outdoor spigot
06060828		23126 West Sprague Road Reardan, WA 99029	GW	Grab	na	MW	6/26/2006	16:10	X		X	X	47.65933	117.72687	Outdoor spigot
06060829		803 North Christensen Road Medical Lake, WA 99022	GW	Grab	na	MW	6/26/2006	16:15	X		X	X	47.66558	117.68268	Outdoor spigot
06060830	Trip Blank 6	na	Water	Grab	na	MW	6/26/2006	08:00				X	na	na	Trip blank
06080501	(b) (6)	22311 West Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	08:58	X	X	X	X	47.71516	117.71471	Outdoor spigot
06080502		22315 North Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	09:10	X	X	X	X	47.71269	117.71543	Outdoor spigot
06080503		23304 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	8/22/2006	10:05	X	X	X		47.71679	117.72845	Outdoor spigot
06080504		22905 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	8/22/2006	09:45	X	X	X		47.71583	117.71884	Outdoor spigot
06080505		23912 West Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	10:32	X	X	X		47.71676	117.73595	Outdoor spigot
06080506		22025 West Jacobs Road Spokane, WA 98224	GW	Grab	na	JF	8/22/2006	09:30	X	X	X		47.71572	117.71145	Outdoor spigot
06080507		22205 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	8/22/2006	10:17	X	X	X		47.71540	117.71355	Outdoor spigot
06080508		21318 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	8/22/2006	11:20	X	X	X	X	47.71675	117.70223	Outdoor spigot
06080509		20820 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	8/22/2006	11:30	X	X	X	X	47.72206	117.69456	Outdoor spigot

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06080510	(b) (6)	6003 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	12:00	X	X	X	X	47.70894	117.73705	Outdoor spigot
06080511		710 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	12:20	X	X	X	X	47.66515	117.73100	Outdoor spigot
06080512		21221 West Bowie Lane Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	12:40	X	X	X	X	47.70039	117.70021	Outdoor spigot
06080513		22811 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	15:45	X	X	X	X	47.65571	117.72174	Outdoor spigot
06080514		21905 West Bowie Lane Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	13:00	X	X	X	X	47.70099	117.70906	Outdoor spigot
06080515		2702 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	8/22/2006	15:00	X	X	X	X	47.68281	117.68913	Outdoor spigot
06080516		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	13:45	X	X	X	X	47.68493	117.72092	Outdoor spigot
06080517		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	14:15	X	X	X	X	47.68476	117.71757	Outdoor spigot
06080518		4314 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	8/22/2006	15:30	X	X	X	X	47.69751	117.70953	Outdoor spigot
06080520		22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	13:55	X	X	X	X	47.68573	117.71216	Outdoor spigot
06080521		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	14:00				X	47.68493	117.72092	Indoor faucet
06080522		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	8/22/2006	14:30				X	47.68375	117.72112	Backup Tank
06080523	Trip Blank 7	na	Water	Grab	na	JF	8/22/2006	08:00				X	na	na	Trip Blank
06090601	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	33.33	JF	9/14/2006	10:00				x	47.68931	117.72276	Monitoring well
06090602	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	65.17	JF	9/14/2006	11:00				X	47.68714	117.72525	Monitoring well
06090603	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	80.10	JF	9/14/2006	12:00				X	47.68705	117.72233	Monitoring well
06090604	(b) (6) (MW04)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	61.00	JF	9/14/2006	13:00				X	47.68624	117.72246	Monitoring well
06090605	(b) (6)	22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	9/14/2006	14:00	X	X			47.68567	117.72351	Outdoor spigot
06090606	(b) (6) (Euclid Well)	22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	9/14/2006	14:20	X	X			47.68708	117.72184	Outdoor spigot
06090607	(b) (6)	20802 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	9/14/2006	14:40	X	X	X	X	47.68418	117.69815	Outdoor spigot

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06090608	(b) (6)	4110 North Ritchey Road Medical Lake, WA 98022	GW	Grab	na	JF	9/14/2006	15:00	X	X	X	X	47.6956	117.70929	Outdoor spigot
06090609		4020 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	9/14/2006	15:20	X	X			47.69496	117.71005	Outdoor spigot
06090610		3912 North Ritchey Road Medical Lake, WA 98022	GW	Grab	na	JF	9/14/2006	15:40	X	X			47.69353	117.71008	Outdoor spigot
06090611		2620 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	9/14/2006	16:00	X	X			47.68212	117.71086	Outdoor spigot
06090612		304 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	9/14/2006	16:20	X	X	X	X	47.66065	117.73111	Outdoor spigot
06090613		21816 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	06:20	X	X			47.73328	117.72657	Outdoor spigot
06090614		22110 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	06:40	X	X			47.64388	117.70921	Indoor faucet
06090615		22100 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	07:00	X	X			47.64366	117.71289	Outdoor spigot <sup>b</sup>
06090616		8018 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	07:20	X	X			47.64400	117.71407	Indoor faucet <sup>b</sup>
06090617		22012 West State Route 2 Medical Lake, WA 99029	GW	Grab	na	JF	9/15/2006	07:40	X	X			47.64365	117.71134	Outdoor spigot
06090618		23321 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	08:00	X	X			47.66322	117.72834	Outdoor spigot
06090619		23126 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	08:20	X	X			47.65933	117.72687	Outdoor spigot
06090620		23212 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	08:40	X	X			47.65929	117.72792	Outdoor spigot
06090621		23324 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	09:00	X	X	X	X	47.65930	117.72940	Indoor faucet
06090622		21114 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	9/15/2006	09:20	X	X	X	X	47.71939	117.69904	Outdoor spigot
06090623		21202 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	9/15/2006	09:40	X	X	X	X	47.71928	117.701	Outdoor spigot
06090624		21615 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	9/15/2006	10:00	X	X	X	X	47.71031	117.70955	Outdoor spigot
06090625		20814 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	9/15/2006	10:20	X	X	X	X	47.71944	117.69597	Outdoor spigot
06090626		21208 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	9/15/2006	10:40	X	X			47.71719	117.70126	Outdoor spigot
06090627		2220 Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	11:00	X	X	X	X	47.67903	117.69774	Outdoor spigot

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06090628	(b) (6)	707 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	11:20	X	X	X	X	47.66401	117.86948	Outdoor spigot
06090629		425 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	11:40	X	X	X	X	47.66235	117.68962	Outdoor spigot
06090630		813 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	12:00	X	X	X	X	47.66646	117.69205	Outdoor spigot
06090631		1925 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	12:20	X	X			47.67560	117.70299	Outdoor spigot
06090632		2701 North Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	12:40	X	X	X	X	47.68538	117.68931	Outdoor spigot
06090633		3511 North Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	13:00	X	X	X	X	47.69002	117.68970	Outdoor spigot
06090635		20902 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	13:40	X	X	X	X	47.67614	117.69595	Outdoor spigot
06090636		20702 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	14:00	X	X	X	X	47.67778	117.69362	Outdoor spigot
06090637		20606 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	14:20	X	X	X	X	47.67833	117.69203	Outdoor spigot
06090639	Trip Blank 8	na	Water	Grab	na	JF	9/15/2006	08:00				X	na	na	Trip blank
06090640	(b) (6)	1515 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	15:00	X	X			47.67152	117.08375	Outdoor spigot <sup>b</sup>
06090641		717 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	15:20	X	X			47.64980	117.68339	Outdoor spigot <sup>b</sup>
06090642		718 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	15:40	X	X	X	X	47.65126	117.68497	Outdoor spigot
06090643		20003 West Steinmetz Lane Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	16:00	X	X	X	X	47.65227	117.68426	Outdoor spigot
06090644		714 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	9/15/2006	16:20	X	X	X	X	47.65149	117.68293	Outdoor spigot
06090645		20626 West Old Sunset Hwy. Reardan, WA 99029	GW	Grab	na	JF	9/15/2006	16:40	X	X	X	X	47.64587	117.69261	Outdoor spigot
06121004		22625 West Euclid Road Reardan, WA 99029	GW	Grab	61.0	JF	12/13/2006	13:55				X	47.68624	117.72246	Monitoring well
06121005	(MW04)														
06121005	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	12/13/2006	16:00				X	47.68493	117.72092	Treatment system (pre-treatment)
06121006		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	12/13/2006	16:00				X	47.68493	117.72092	Treatment system (mid-treatment)
06121007		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	12/13/2006	16:00				X	47.68493	117.72092	Treatment system (post-treatment)
06121007															

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06121008	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	32.6	JF	12/13/2006	11:15				X	47.68931	117.72276	Monitoring well
06121009	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	64.5	JF	12/13/2006	11:50				X	47.68714	117.72525	Monitoring well
06121010	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	80.7	JF	12/13/2006	12:45				X	47.68705	117.72233	Monitoring well
06121011	(b) (6)	4803 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	12:10				X	47.70282	117.74151	Treatment system (post-treatment)
06121012		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	12:10				X	47.70282	117.74151	Treatment system (mid-treatment)
06121013		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	12:10				X	47.70282	117.74151	Treatment system (pre-treatment)
06121014		22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	12/13/2006	16:10				X	47.68573	117.71216	Outdoor spigot
06121015		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	12/13/2006	15:55				X	47.68476	117.71757	Outdoor spigot
06121016		7322 North Brooks Road Spokane, WA 98224	GW	Grab	na	JF	12/14/2006	10:20		X	X	X	47.72486	117.6787	Outdoor spigot
06121017		20820 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	12/14/2006	10:45		X	X	X	47.72204	117.69458	Outdoor spigot
06121018		19701 West Bowie Road Spokane, WA 99022	GW	Grab	na	JF	12/14/2006	09:05		X	X	X	47.69957	117.6841	Outdoor spigot
06121019		723 South Brooks Road Medical Lake, WA 98022	GW	Grab	na	JF	12/14/2006	07:45		X	X	X	47.64906	117.68671	Outdoor spigot
06121020		3228 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	14:00		X	X	X	47.68869	117.65504	Outdoor spigot
06121021		North 6620 Brooks Road Spokane, WA 99224	GW	Grab	na	JF	12/14/2006	14:15		X	X	X	47.7192	117.67535	Outdoor spigot
06121022		20702 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	12/14/2006	10:55		X	X	X	47.71737	117.69315	Outdoor spigot
06121023		910 Ritchey Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	14:35		X	X	X	47.64919	117.71229	Outdoor spigot
06121024		1535 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	15:00		X	X	X	47.67232	117.6881	Outdoor spigot
06121025		20304 West Steinmetz Lane Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	08:00		X	X	X	47.65439	117.68864	Outdoor spigot
06121026		1627 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	07:00		X	X	X	47.67326	117.69958	Outdoor spigot
06121027		South 719 Brooks Road Medical Road, WA 99022	GW	Grab	na	JF	12/14/2006	07:45		X	X	X	47.64951	117.68528	Outdoor spigot



Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06121028	(b) (6)	20614 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	12/14/2006	08:30		X	X	X	47.71633	117.69195	Outdoor spigot
06121029		20810 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	12/14/2006	08:40		X	X	X	47.71623	117.69544	Outdoor spigot
06121030		2620 South Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	15:40		X	X	X	47.63097	117.71163	Outdoor spigot
06121031		23010 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	16:05		X	X	X	47.66066	117.72488	Outdoor spigot
06121032		3207 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	16:30		X	X	X	47.68882	117.73321	Outdoor spigot
06121033		1210 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	17:00		X	X	X	47.66924	117.6941	Outdoor spigot
06121034		2203 South Rieth Lane Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	17:20		X	X	X	47.63535	117.72057	Outdoor spigot
06121035		1808 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	12/14/2006	17:40		X	X	X	47.67465	117.69914	Outdoor spigot
06121036		22320 West Bowie Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	18:00		X	X	X	47.70329	117.72568	Outdoor spigot
06121037		22726 West Bowie Road Reardan, WA 99029	GW	Grab	na	JF	12/14/2006	18:20		X	X	X	47.7037	117.7202	Outdoor spigot
06121038		22001 West Highway 2 Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	07:25		X	X	X	47.64272	117.71128	Outdoor spigot
06121039		26304 West Highway 2 Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	07:40		X	X	X	47.6444	117.76904	Outdoor spigot
06121040		2608 North Deep Creek Road Medical Lake, WA 98022	GW	Grab	na	JF	12/15/2006	08:05		X	X	X	47.6814	117.6936	Outdoor spigot
06121041		1207 South Central Road Medical Lake, WA 99022	GW	Grab	na	JF	12/15/2006	08:20		X	X	X	47.64448	117.70919	Outdoor spigot
06121042		1201 South Wood Road Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	10:30		X	X	X	47.64595	117.73093	Outdoor spigot
06121043		21718 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	12/15/2006	08:50		X	X	X	47.71724	117.70689	Outdoor spigot
06121044		West 20202 Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	12/15/2006	10:00		X	X	X	47.67746	117.68078	Outdoor spigot
06121045		18411 West Bowie Road Spokane, WA 99244	GW	Grab	na	JF	12/15/2006	09:15		X	X	X	47.69503	117.6636	Outdoor spigot
06121046		1525 Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	12/15/2006	09:25		X	X	X	47.67301	117.68441	Outdoor spigot
06121047		2300 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	10:40		X	X	X	47.65669	117.72563	Outdoor spigot

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
06121048	NW Microfilms (b) (6)	22210 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	11:00		X	X	X	47.65998	117.71384	Outdoor spigot
06121049		19701 West Bowie Road Spokane, WA 99022	GW	Grab	na	JF	12/14/2006	09:05		X	X	X	47.69954	117.68222	Outdoor spigot
06121050		20904 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	12/15/2006	09:45		X	X	X	47.6773	117.69485	Outdoor spigot
06121051	Hutterian Brethren (Chicken coop well)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	12/14/2006	11:35		X	X	X	47.69048	117.72301	Indoor spigot
06121052	Hutterian Brethren (Primary well)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	12/14/2006	11:55		X	X	X	47.69284	117.72243	Indoor spigot
06121053	(b) (6)	23126 West Sprague Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	11:15		X			47.65933	117.72687	Outdoor spigot
06121054		23324 West Sprague Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	11:25		X			47.65930	117.72940	Indoor faucet
06121055		22100 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	12/15/2006	11:35		X			47.64366	117.71289	Outdoor spigot <sup>b</sup>
06121056		21816 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	12/15/2006	09:00		X	X		47.7178	117.70927	Outdoor spigot
06121057	Trip Blank 9	na	Water	Grab	na	JF	12/13/2006	08:00				X	na	na	Trip Blank
06121060	Field Blank	na	Water	Grab	na	JF	12/15/2006	08:00		X			na	na	Field Blank
07040101	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	30.1	JF	4/16/2007	13:00				X	47.68931	117.72276	Monitoring well
07040102	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	62	JF	4/16/2007	13:45				X	47.68714	117.72525	Monitoring well
07040103	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	78.16	JF	4/16/2007	14:20				X	47.68705	117.72233	Monitoring well
07040104	(b) (6) (MW04)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	58.7	JF	4/16/2007	14:50				X	47.68624	117.72246	Monitoring well
07040105	(b) (6)	22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	10:40				X	47.68567	117.72351	Treatment system (pre-treatment)
07040106		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	12:20				X	47.68476	117.71757	Outdoor spigot
07040108		22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	11:40				X	47.68708	117.72184	Outdoor spigot
07040109	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	12:00				X	47.68479	117.72092	Treatment system (pre-treatment)
07040110		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	12:00				X	47.68479	117.72092	Treatment system (mid-treatment)
07040111		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	12:00				X	47.68479	117.72092	Treatment system (post-treatment)

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07040112	(b) (6)	22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	11:10				X	47.70282	117.74151	Treatment system (pre-treatment)
07040113		22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	11:10				X	47.70282	117.74151	Treatment system (mid-treatment)
07040114	(residence)	22900 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	11:10				X	47.70282	117.74151	Treatment system (post-treatment)
07040115	Trip Blank 10	na	Water	Grab	na	JF	4/16/2007	08:00				X	na	na	Trip Blank
07040116	Hutterian Brethren Primary Well	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	4/16/2007	10:05				X	47.69284	117.72243	Indoor spigot
07040117	Hutterian Brethren Chicken Coop	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	4/16/2007	09:45				X	47.69048	117.72301	Indoor spigot
07040118	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	12:00				X	47.68708	117.72184	Treatment system (pre-treatment)
07040119		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	10:40				X	47.68567	117.72351	Treatment system (mid-treatment)
07040120		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	10:40				X	47.68567	117.72351	Treatment system (post-treatment)
07040121		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	4/16/2007	10:40				X	47.68567	117.72351	Treatment system (pre-treatment duplicate)
07050001	Hutterian Brethren (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:30				X	47.68721	117.72134	Gore™ Module 532142
07050002	Hutterian Brethren (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:30				X	47.68714	117.72141	Gore™ Module 532143
07050003	Hutterian Brethren (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:30				X	47.68709	117.72134	Gore™ Module 532144
07050004	Hutterian Brethren (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:30				X	47.68709	117.72124	Gore™ Module 532145
07050005	Hutterian Brethren (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:30				X	47.68716	117.72118	Gore™ Module 532146
07050006	Hutterian Brethren (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:30				X	47.68722	117.72120	Gore™ Module 532147
07050007	Hutterian Brethren Blank (near MW02)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	na				X	na	na	Gore™ Module 532148
07050008	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:50				X	47.68942	117.72181	Gore™ Module 532149
07050009	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:50				X	47.68938	117.72181	Gore™ Module 532150
07050010	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:50				X	47.68934	117.72179	Gore™ Module 532151

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**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07050011	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:50				X	47.68932	117.72175	Gore™ Module 532152
07050012	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:50				X	47.68932	117.72170	Gore™ Module 532153
07050013	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	18:50				X	47.68934	117.72166	Gore™ Module 532154
07050014	Hutterian Brethren (near MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	na				X	na	na	Gore™ Module 532155
07050015	Hutterian Brethren (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	19:15				X	47.69288	117.72249	Gore™ Module 532156
07050016	Hutterian Brethren (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	19:15				na	47.69279	117.72253	Gore™ Module 532157
07050017	Hutterian Brethren (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	19:15				X	47.69272	117.72234	Gore™ Module 532158
07050018	Hutterian Brethren (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	19:15				X	47.69279	117.72256	Gore™ Module 532159
07050019	Hutterian Brethren (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	19:15				X	47.69287	117.72262	Gore™ Module 532160
07050020	Hutterian Brethren (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	19:15				X	47.69278	117.72245	Gore™ Module 532161
07050021	Hutterian Brethren Blank (near Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	JF	6/10/2007	na				X	na	na	Gore™ Module 532162
07050200	(b) (6)	22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	5/23/2007	10:15				X	47.68573	117.71216	Outdoor spigot
07050201	Trip Blank 11	na	Water	Grab	na	JF	5/23/2007	08:00				X	na	na	Trip Blank
07050202	Intermittent Stream (b) (6) Property)	22215 West Sprague Road Reardan, WA 99029	SW	Grab	na	JF	5/23/2007	10:25				X	47.68747	117.71376	Stream
07060001	(b) (6)	25313 West Coulee Hite Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	06:15	X		X		47.74239	117.75555	Outdoor spigot
07060002		8018 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	06:20	X		X		47.64400	117.71407	Indoor faucet <sup>b</sup>
07060003		20614 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	06:45	X		X		47.71633	117.69195	Outdoor spigot
07060004		20810 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	06:55	X		X		47.71623	117.69544	Outdoor spigot
07060005		20814 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	07:15	X		X		47.71944	117.69597	Outdoor spigot
07060006		20820 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	07:30	X		X		47.72206	117.69456	Outdoor spigot

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07060007	(b) (6)	21114 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	07:50	X		X		47.71939	117.69904	Outdoor spigot
07060008		21110 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	08:10	X		X		47.71716	117.69928	Outdoor spigot
07060009		21202 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	08:20	X		X		47.71928	117.701	Outdoor spigot
07060010		21208 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	08:40		X	X		47.71719	117.70126	Outdoor spigot
07060011		21318 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	09:10		X	X		47.71675	117.70223	Outdoor spigot
07060012		21615 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	09:35		X	X		47.71031	117.70955	Outdoor spigot
07060013		21718 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	09:45		X	X		47.71724	117.70689	Outdoor spigot
07060014		21816 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	10:00		X	X		47.7178	117.70927	Outdoor spigot
07060015		22025 West Jacobs Road Spokane, WA 98224	GW	Grab	na	JF	6/11/2007	10:20		X	X		47.71572	117.71145	Outdoor spigot
07060016		22205 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	10:35		X	X		47.71540	117.71355	Outdoor spigot
07060017		22315 North Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	10:50		X	X		47.71269	117.71543	Outdoor spigot
07060018		22311 West Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	11:05		X	X		47.71516	117.71471	Outdoor spigot
07060019		22905 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	11:20		X	X		47.71583	117.71884	Outdoor spigot
07060020		23912 West Jacobs Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	11:45		X	X		47.71676	117.73595	Outdoor spigot
07060021		20702 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	12:10		X	X		47.71737	117.69315	Outdoor spigot
07060022		23304 West Jacobs Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	12:30		X	X		47.71679	117.72845	Outdoor spigot
07060023		6215 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	12:55		X	X		47.71396	117.73346	Outdoor spigot
07060024		6310 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	14:05		X	X		47.71654	117.73112	Outdoor spigot
07060025		6814 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	14:30		X	X		47.71822	117.73080	Spigot in shed
07060026		6504 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	14:45		X	X		47.71885	117.73058	Outdoor spigot
07060027		6610 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	14:55		X	X		47.71907	117.73133	Outdoor spigot

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07060028	(b) (6)	6712/6814 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	15:15		X	X		47.72102	117.73154	Outdoor spigot
07060029		7006 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/11/2007	15:30		X	X		47.72251	117.73170	Spigot in wellhouse
07060030		7322 North Brooks Road Spokane, WA 98224	GW	Grab	na	JF	6/11/2007	16:00		X	X		47.72486	117.6787	Outdoor spigot
07060031		North 6620 Brooks Road Spokane, WA 99224	GW	Grab	na	JF	6/11/2007	16:15		X	X		47.7192	117.67535	Outdoor spigot
07060032		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	06:00		X	X		47.70282	117.74151	Post treatment system
07060033		1616 North Ritchey Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	06:30		X	X		47.67315	117.71043	Outdoor spigot
07060034		19701 West Bowie Road Spokane, WA 99022	GW	Grab	na	JF	6/12/2007	06:45		X	X		47.69957	117.6841	Outdoor spigot
07060035		20802 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	07:10		X	X		47.68418	117.69815	Outdoor spigot
07060036		2118 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	07:25		X	X		47.67767	117.70769	Indoor faucet
07060037		2620 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	07:45		X	X		47.68212	117.71086	Outdoor spigot
07060038		21221 West Bowie Lane Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	08:05		X	X		47.70039	117.70021	Outdoor spigot
07060039		21905 West Bowie Lane Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	08:20		X	X		47.70099	117.70906	Outdoor spigot
07060040		22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	08:40		X	X		47.68573	117.71216	Outdoor spigot
07060041		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	09:05		X	X		47.68567	117.72351	Outdoor frost free (untreated) Former (b) house
07060042		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	09:20		X	X		47.68476	117.71757	Outdoor spigot
07060043		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	09:40		X	X		47.68479	117.72092	Outdoor spigot
07060044		2819A North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	09:55		X	X		47.68377	117.71243	Outdoor spigot
07060045		2819B North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	10:15		X	X		47.68437	117.71195	Outdoor spigot
07060046		22320 West Bowie Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	10:40		X	X		47.70329	117.72568	Outdoor spigot
07060047		22726 West Bowie Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	11:00		X	X		47.7037	117.7202	Outdoor spigot

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**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07060048	(b) (6)	3207 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	11:35		X	X		47.68882	117.73321	Outdoor spigot
07060049	Hutterian Brethren (Primary Well)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	6/12/2007	11:50		X	X		47.69284	117.72243	Spigot in well house
07060050	(b) (6)	23717 West Bowie Lane Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	12:10		X	X		47.69984	117.73540	Outdoor spigot
07060051		25512 West Euclid Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	12:25		X	X		47.68904	117.75491	Outdoor spigot
07060052		4202 North Wood Road Reardan, WA 99029-9619	GW	Grab	na	JF	6/12/2007	12:45		X	X		47.69985	117.72145	Spigot in shed <sup>b</sup>
07060053		2608 North Deep Creek Road Medical Lake, WA 98022	GW	Grab	na	JF	6/12/2007	13:55		X	X		47.6814	117.6936	Outdoor spigot
07060054		2702 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	14:30		X	X		47.68281	117.68913	Outdoor spigot
07060055		3511 North Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	14:45		X	X		47.69002	117.68970	Outdoor spigot
07060056		3526 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	15:10		X	X		47.68998	117.70497	Outdoor spigot
07060057		3912 North Ritchey Road Medical Lake, WA 98022	GW	Grab	na	JF	6/12/2007	15:20		X	X		47.69353	117.71008	Outdoor spigot
07060058		4020 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	15:45		X	X		47.69496	117.71005	Outdoor spigot
07060059		4101 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	16:00		X	X		47.69176	117.70195	Outdoor spigot
07060060		4110 North Ritchey Road Medical Lake, WA 98022	GW	Grab	na	JF	6/12/2007	16:20		X	X		47.6956	117.70929	Outdoor spigot
07060061		4314 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	16:40		X	X		47.69751	117.70953	Outdoor spigot
07060062		2701 North Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	6/12/2007	17:00		X	X		47.68538	117.68931	Outdoor spigot
07060063		1201 South Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	06:00		X	X		47.64595	117.73093	Outdoor spigot
07060064	(	21816 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	06:30		X	X		47.64439	117.70969	Outdoor spigot <sup>b</sup>
07060065		21816 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	6/12/2007	06:35		X	X		47.64388	117.70921	Outdoor spigot
07060066		22012 West State Route 2 Medical Lake, WA 99029	GW	Grab	na	JF	6/12/2007	07:00		X	X		47.64365	117.71134	Outdoor spigot
07060067		22110 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	07:20		X	X		47.64366	117.71289	Indoor faucet
07060068		22100 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	07:25		X	X		47.64400	117.71407	Outdoor spigot <sup>b</sup>

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07060069	(b) (6)	26304 West Highway 2 Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	07:45		X	X		47.6444	117.76904	Outdoor spigot
07060070		21818 West Highway 2 Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	08:15		X	X		47.64403	117.70888	Outdoor spigot
07060071		1209 South Central Avenue Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	08:20		X	X		47.64423	117.70924	Outdoor spigot <sup>b</sup>
07060072		22001 West Highway 2 Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	08:50		X	X		47.64272	117.71128	Outdoor spigot
07060073		1207 South Central Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	08:30		X	X		47.64448	117.70919	Outdoor spigot
07060074		22312 West State Route 2 Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	09:15		X	X		47.64399	117.72414	Outdoor spigot
07060075	NW Microfilms	22210 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	09:45		X	X		47.65998	117.71384	Outdoor spigot
07060076	(b) (6)	110 North Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	10:10		X	X		47.65876	117.70988	Outdoor spigot
07060077		910 Ritchey Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	10:30		X	X		47.64919	117.71229	Outdoor spigot
07060078		22811 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	11:00		X	X		47.65571	117.72174	Outdoor spigot
07060079		22812 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	11:20		X	X		47.65831	117.72241	Outdoor spigot
07060080		2300 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	11:40		X	X		47.65669	117.72563	Outdoor spigot
07060081		23010 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	12:00		X	X		47.66066	117.72488	Outdoor spigot
07060082		23103 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	12:20		X	X		47.66344	117.72662	Outdoor spigot
07060083		23212 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	12:40		X	X		47.65929	117.72792	Outdoor spigot
07060084		23321 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	13:20		X	X		47.66322	117.72834	Outdoor spigot
07060085		23322 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	13:25		X	X		47.66371	117.72939	Outdoor spigot
07060086		23324 West Sprague Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	13:00		X	X		47.65930	117.72940	Indoor faucet
07060087		23504 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	14:10		X	X		47.66430	117.73072	Outdoor spigot
07060088		23505 West Alki Lane Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	14:15		X	X		47.66339	117.73085	Outdoor spigot



Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07060089	(b) (6)	304 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	14:40		X	X		47.66065	117.73111	Outdoor spigot (Former Diane Abbey residence)
07060090		710 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	15:05		X	X		47.66515	117.73100	Outdoor spigot
07060091		1607 South Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	15:25		X	X		47.64046	117.70811	Outdoor spigot
07060092		2203 South Rieth Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	15:50		X	X		47.63535	117.72057	Outdoor spigot
07060093		2620 South Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	16:15		X	X		47.63097	117.71163	Outdoor spigot
07060094		1509 South Ritchey Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	16:40		X	X		47.64151	117.70769	Outdoor spigot
07060095		20626 West Old Sunset Hwy. Reardan, WA 99029	GW	Grab	na	JF	6/13/2007	06:00		X	X		47.64587	117.69261	Outdoor spigot
07060096		723 South Brooks Road Medical Lake, WA 98022	GW	Grab	na	JF	6/13/2007	06:20		X	X		47.64906	117.68671	Outdoor spigot
07060097		719 South Brooks Road Medical Road, WA 99022	GW	Grab	na	JF	6/13/2007	06:40		X	X		47.64951	117.68528	Outdoor spigot
07060098		717 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	07:05		X	X		47.64980	117.68339	Outdoor spigot <sup>b</sup>
07060099		714 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	07:30		X	X		47.65149	117.68293	Outdoor spigot
07060100		20003 West Steinmetz Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/13/2007	08:00		X	X		47.65227	117.68426	Outdoor spigot
07060101		716 South Brooks Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	08:15		X	X		47.65203	117.68536	Outdoor spigot
07060102		20304 West Steinmetz Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	08:35		X	X		47.65439	117.68864	Outdoor spigot
07060103		425 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	09:10		X	X		47.66235	117.68962	Outdoor spigot
07060104		707 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	09:40		X	X		47.66401	117.86948	Outdoor spigot
07060105		803 North Christensen Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	09:50		X	X		47.66558	117.68268	Outdoor spigot
07060106		813 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	10:25		X	X		47.66646	117.69205	Outdoor spigot
07060107		1210 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	10:30		X	X		47.66924	117.6941	Outdoor spigot
07060108		1627 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	10:45		X	X		47.67326	117.69958	Outdoor spigot

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EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07060109	(b) (6)	1808 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	11:15		X	X		47.67465	117.69914	Outdoor spigot
07060110		1925 North Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	11:30		X	X		47.67560	117.70299	Outdoor spigot
07060111		2220 Deep Creek Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	11:50		X	X		47.67903	117.69774	Outdoor spigot
07060112		20902 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	12:10		X	X		47.67614	117.69595	Outdoor spigot
07060113		20904 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	12:20		X	X		47.6773	117.69485	Outdoor spigot
07060114		20702 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	12:35		X	X		47.67778	117.69362	Outdoor spigot
07060115		20606 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	13:00		X	X		47.67833	117.69203	Indoor faucet
07060116		20202 West Indiana Lane Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	13:20		X	X		47.67746	117.68078	Outdoor spigot
07060117		1515 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	13:40		X	X		47.67152	117.08375	Outdoor spigot <sup>b</sup>
07060118		1525 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	13:55		X	X		47.67301	117.68441	Outdoor spigot
07060119		1535 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	14:20		X	X		47.67232	117.6881	Outdoor spigot
07060120		18411 West Bowie Road Spokane, WA 99244	GW	Grab	na	JF	6/14/2007	14:35		X	X		47.69503	117.6636	Outdoor spigot
07060121		3228 North Christianson Road Medical Lake, WA 99022	GW	Grab	na	JF	6/14/2007	14:50		X	X		47.68869	117.65504	Outdoor spigot
07060122	Eastern State Hospital Well	West Hallett and South Ladd Roads	GW	Grab	na	JF	6/14/2007	15:20		X	X		47.5946	117.75471	Indoor spigot
07060123	(b) (6) backup well	6215 North Wood Road Reardan, WA 99029	GW	Grab	na	JF	6/14/2007	15:50		X	X		47.71396	117.73346	Indoor tank
07100501	Trip Blank 12	na	Water	Grab	na	MW	10/22/2007	08:00				X	na	na	Trip Blank 12
07100502	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	10:20				X	47.68493	117.72092	Treatment system (pre-treatment)
07100503		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	10:20				X	47.68493	117.72092	Treatment system (mid-treatment)
07100504		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	10:20				X	47.68493	117.72092	Treatment system (post-treatment)
07100505		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	08:30				X	47.70282	117.74151	Treatment system (pre-treatment)
07100506		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	08:30				X	47.70282	117.74151	Treatment system (mid-treatment)
	(residence)														

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07100507	(b) (6)	4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	08:30				X	47.70282	117.74151	Treatment system (post-treatment)
07100508		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	11:30				X	47.68567	117.72351	Treatment system (pre-treatment)
07100509		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	11:30				X	47.68567	117.72351	Treatment system (mid-treatment)
07100510		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	11:30				X	47.68567	117.72351	Treatment system (post-treatment)
07100511		22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	09:55				X	47.68476	117.71757	Outdoor spigot
07100512		22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	MW	10/22/2007	11:00				X	47.68573	117.71216	Outdoor spigot
07100513	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	35.14	MW	10/25/2007	11:00				X	47.68931	117.72276	Monitoring well
07100514	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	66.32	MW	10/25/2007	12:00				X	47.68714	117.72525	Monitoring well
07100515	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	82.66	MW	10/25/2007	13:00				X	47.68705	117.72233	Monitoring well
07100516	(b) (6) (MW04)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	62.9	MW	10/25/2007	14:00				X	47.68624	117.72246	Monitoring well
07100517	Hutterian Brethren (MW05)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	31.51	MW	10/26/2007	09:45				X	47.69101	117.73103	Monitoring well
07100518	Hutterian Brethren (MW06)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	33.65	MW	10/26/2007	09:05				X	47.69007	117.72788	Monitoring well
07100519	(b) (6) (MW07)	3207 North Wood Road Reardan, WA 99029	GW	Grab	36.02	MW	10/26/2007	08:30				X	47.68691	117.72955	Monitoring well
07100520	(b) (6) (MW08)	22215 West Sprague Road Reardan, WA 99029	GW	Grab	70.9	MW	10/26/2007	07:45				X	47.68638	117.71709	Monitoring well
07100521	(b) (6)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	10/24/2007	10:40				X	47.68493	117.72092	Backup Tank
07100522	Rinsate Blank	na	Water	Grab	na	MW	10/25/2007	14:20				X	na	na	Rinsate Blank
07100541	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:05				X	47.70118	117.74301	Gore™ Module
07100542	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:07				X	47.70134	117.74233	Gore™ Module
07100543	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:09				X	47.70129	117.74187	Gore™ Module
07100544	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:15				X	47.69908	117.73586	Gore™ Module
07100545	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:20				X	47.69941	117.73591	Gore™ Module

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07100546	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:22				X	47.69967	117.73596	Gore™ Module
07100547	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:25				X	47.69991	117.73588	Gore™ Module
07100548	(b) (6)	3207 North Wood Road Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	09:30				X	47.68815	117.73344	Gore™ Module
07100549		3207 North Wood Road Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	09:32				X	47.68839	117.73345	Gore™ Module
07100550	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:40				X	47.69423	117.73318	Gore™ Module
07100551	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:42				X	47.69384	117.73321	Gore™ Module
07100552	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:44				X	47.69349	117.73322	Gore™ Module
07100553	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:46				X	47.69299	117.73321	Gore™ Module
07100554	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:48				X	47.69257	117.73321	Gore™ Module
07100555	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:50				X	47.6919	117.73322	Gore™ Module
07100556	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:52				X	47.69079	117.73325	Gore™ Module
07100557	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:54				X	47.69033	117.73321	Gore™ Module
07100558	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:56				X	47.68997	117.72222	Gore™ Module
07100559	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	09:58				X	47.68962	117.73324	Gore™ Module
07100560	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:00				X	47.68925	117.73321	Gore™ Module
07100561	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:02				X	47.68888	117.73311	Gore™ Module
07100562	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:04				X	47.58837	117.73294	Gore™ Module
07100563	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:06				X	47.68797	117.73304	Gore™ Module
07100564	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:08				X	47.68763	117.73328	Gore™ Module
07100565	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:10				X	47.68723	117.73324	Gore™ Module
07100566	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:15				X	47.58699	117.73592	Gore™ Module

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
07100567	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:16				X	47.68696	117.73562	Gore™ Module
07100568	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:17				X	47.68705	117.7354	Gore™ Module
07100569	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:18				X	47.68735	117.73541	Gore™ Module
07100570	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:20				X	47.69081	117.7354	Gore™ Module
07100571	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:21				X	47.69086	117.7359	Gore™ Module
07100572	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:22				X	47.69098	117.73842	Gore™ Module
07110001	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:30				X	47.68931	117.72276	Monitoring well
07110002	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:30				X	47.68931	117.72276	Monitoring well
07110003	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:30				X	47.68931	117.72276	Monitoring well
07110004	(b) (6)	West Euclid Road (Undeveloped) Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	10:40				X	47.68714	117.72525	Monitoring well
07110005		West Euclid Road (Undeveloped) Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	10:40				X	47.68714	117.72525	Gore™ Module
07110006		West Euclid Road (Undeveloped) Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	10:40				X	47.68714	117.72525	Gore™ Module
07110007	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:45				X	47.68705	117.72233	Gore™ Module
07110008	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:45				X	47.68705	117.72233	Gore™ Module
07110009	Hutterian Brethren (MW03)	3610 North Wood Road Reardan, WA 99029-9619	SG	Comp.	na	MW	11/7/2007	10:45				X	47.68705	117.72233	Gore™ Module
07110010	(b) (6)	22625 West Euclid Road Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	10:50				X	47.68624	117.72246	Gore™ Module
07110011		22625 West Euclid Road Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	10:50				X	47.68624	117.72246	Gore™ Module
07110012	(MW04)	22625 West Euclid Road Reardan, WA 99029	SG	Comp.	na	MW	11/7/2007	10:50				X	47.68624	117.72246	Gore™ Module
07110013	Trip Blank	na	SG	Comp.	na	MW	11/7/2007	na				X	na	na	Gore™ Module
07110014	Trip Blank	na	SG	Comp.	na	MW	11/7/2007	na				X	na	na	Gore™ Module
07110015	Trip Blank	na	SG	Comp.	na	MW	11/7/2007	na				X	na	na	Gore™ Module
07110016	Trip Blank	na	SG	Comp.	na	MW	11/7/2007	na				X	na	na	Gore™ Module
09060001	Hutterian Brethren (MW01)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	26.47	MW	6/30/2009	10:00				X	47.68931	117.72276	Monitoring well

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
09060002	(b) (6) (MW02)	West Euclid Road (Undeveloped) Reardan, WA 99029	GW	Grab	59.41	MW	6/30/2009	10:45				X	47.68714	117.72525	Monitoring well
09060003	Hutterian Brethren	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	74.75	MW	6/30/2009	11:30				X	47.68705	117.72233	Monitoring well
09060004	(b) (6) (MW04)	22625 West Euclid Road Reardan, WA 99029	GW	Grab	56.7	MW	6/30/2009	12:15				X	47.68624	117.72246	Monitoring well
09060005	Hutterian Brethren (MW05)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	26.35	MW	6/30/2009	13:00				X	47.69101	117.73103	Monitoring well
09060006	Hutterian Brethren (MW06)	3610 North Wood Road Reardan, WA 99029-9619	GW	Grab	28.3	MW	6/30/2009	13:30				X	47.69007	117.72788	Monitoring well
09060007	(b) (6)	3207 North Wood Road Reardan, WA 99029	GW	Grab	33.1	MW	6/30/2009	14:00				X	47.68691	117.72955	Monitoring well
09060008		22215 West Sprague Road Reardan, WA 99029	GW	Grab	79.30	MW	6/30/2009	15:00				X	47.68638	117.71709	Monitoring well
09060009		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/29/2009	9:30				X	47.68624	117.72246	Treatment system (pre-treatment)
09060010		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/29/2009	9:35				X	47.68624	117.72246	Treatment system (mid-treatment)
09060011		22625 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/29/2009	9:40				X	47.68624	117.72246	Treatment system (post-treatment)
09060012		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/29/2009	10:30				X	47.70282	117.74151	Treatment system (pre-treatment)
09060013		4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/29/2009	10:35				X	47.70282	117.74151	Treatment system (mid-treatment)
09060014	(b) (6) (residence)	4803 North Wood Road Reardan, WA 99029	GW	Grab	na	MW	6/29/2009	10:40				X	47.70282	117.74151	Treatment system (post-treatment)
09060015	(b) (6)	22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/30/2009	11:05				X	47.68567	117.72351	Treatment system (pre-treatment)
09060016		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/30/2009	11:10				X	47.68567	117.72351	Treatment system (mid-treatment)
09060017		22901 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/30/2009	11:15				X	47.68567	117.72351	Treatment system (post-treatment)
09060018	Trip Blank	na	Water	Grab	na	MW	6/30/2009	8:00				X	na	na	na
09060019	(b) (6)	22901 West Euclid Road Reardan, WA 99029	Air	Comp.	na	MW	6/30/2009	9:15				X	47.68567	117.72351	Background Outdoor Air
09060022		22901 West Euclid Road Reardan, WA 99029	Air	Comp.	na	MW	6/30/2009	9:05				X	47.68567	117.72351	Indoor Downstairs
09060023		22901 West Euclid Road Reardan, WA 99029	Air	Comp.	na	MW	6/30/2009	9:05				X	47.68567	117.72351	Indoor Upstairs
09060024		22625 West Euclid Road Reardan, WA 99029	Air	Comp.	na	MW	6/30/2009	9:55				X	47.68624	117.72246	Indoor Upstairs

Table 2-1

**SAMPLE COLLECTION AND ANALYTICAL SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Information									Analyses				Location		
Number	Location	Address	Matrix	Type	Water Level (feet bgs)	Sampler	Collection Date	Collection Time	NDMA (STL SOP)	NDMA (CAS EPA Method 521)	Perchlorate	VOCs <sup>a</sup>	North Latitude (decimal degrees)	West Longitude (decimal degrees)	Sample Location
09060025	(b) (6)	22625 West Euclid Road Reardan, WA 99029	Air	Comp.	na	MW	6/30/2009	10:00				X	47.68624	117.72246	Indoor Downstairs
09060026		22625 West Euclid Road Reardan, WA 99029	Air	Comp.	na	MW	6/30/2009	10:00				X	47.68624	117.72246	Background Outdoor Air
09060027	Rinsate Blank	na	Water	Grab	na	MW	6/30/2009	12:30				X	na	na	na
09060028	(b) (6)	22517 West Euclid Road Reardan, WA 99029	GW	Grab	na	MW	6/30/2009	11:50				X	47.68476	117.71757	Outdoor spigot
09060029		22215 West Sprague Road Reardan, WA 99029	GW	Grab	na	MW	6/30/2009	14:30				X	47.68638	117.71709	Outdoor spigot

## Table 2-1 Key

Notes:

<sup>a</sup> Water and air samples were analyzed for TCE only. Soil gas samples were analyzed for TCE and additional VOCs. Soil gas sample depths are approximate.

<sup>b</sup> Sample collection locations varied at these residences.

Key:

AJ = Alan Jensen.

bgs = below ground surface.

Comp. = Composite.

EPA = United States Environmental Protection Agency.

GW = Groundwater.

JF = Joe Fowlow.

MW = Mark Woodke.

na = Not Applicable.

NDMA = N-nitrosodimethylamine.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SW = Surface water.

TCE = Trichloroethene.

VOCs = Volatile Organic Compounds.



Table 2-2

**HISTORICAL SAMPLE RESULTS  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

Sample Identification	Collection Date	Sample Location	TCE Sample Result (µg/L)
Euclid Well	October 2004	Euclid Well	<b>130</b>
(b) (6)	February 2005	(b) (6)	<b>47</b>
Hutterian Livestock Well	February 2005	Hutterian Livestock Well	<b>1.2</b>
Hutterian Chicken Coop Well	February 2005	Hutterian Chicken Coop Well	<b>1.2</b>
ERGW13	August 2005	(b) (6) Residence Kitchen Faucet	<b>26</b>
ERGW14	August 2005	Field Duplicate of ERGW13	<b>26.6</b>
ERGW15	August 2005	(b) (6) Residence Bathroom Faucet	<b>25.2</b>
ERGW16	August 2005	(b) (6) Residence	<b>53.9</b>
ERGW17	August 2005	(b) (6) Residence Kitchen Faucet	<b>59.5</b>
ERGW18	August 2005	(b) (6) Residence Bathroom Faucet	<b>56.5</b>
ERGW19	August 2005	(b) (6) Residence	1.00 U
ERGW20	August 2005	(b) (6) (Northern Well)	0.5 U
ERGW21	August 2005	(b) (6) (Southern Well)	0.5 U
ERGW22	August 2005	(b) (6) Well	0.5 U
ERGW23	August 2005	(b) (6) Residence	0.5 U
ERGW24	August 2005	(b) (6) Well	0.5 U
ERGW25	August 2005	(b) (6) Spring	<b>12.9</b>
ERGW26	August 2005	(b) (6) Spring	0.5 U
ERGW27	August 2005	(b) (6) Well	0.5 U
ERGW28	August 2005	(b) (6) Well	0.5 U
ERGW29	August 2005	(b) (6) Well	0.5 U
ERGW31	August 2005	(b) (6) Well	0.5 U
ERGW32	August 2005	Field Duplicate of ERGW31	0.5 U
ERGW33	August 2005	(b) (6) Well	0.5 U
ERGW34	August 2005	(b) (6) Well	0.5 U
ERGW35	August 2005	(b) (6) Well (New Construction)	0.5 U
ERMW-1	November 2005	900 feet north of Euclid Well on Hutterite Property (MW01)	<b>3.9</b>
ERMW-2	November 2005	150 feet east of Euclid Well on (b) (6) Property (MW02)	<b>83</b>
ERMW-3	November 2005	Adjacent to Hutterite Livestock well, east of Euclid Well (MW03)	<b>140</b>
ERMW-4	November 2005	South of Euclid Well on (b) (6) Property (MW04)	<b>96</b>
ERMW-5	November 2005	Field duplicate of ERMW-4	<b>87</b>
ERVaultSW	November 2005	Ponded water inside telephone vault located 80 feet south of Euclid Well	0.2 U

Note: Bold type indicates the sample result is above the detection limit.

Key:

µg/L = Micrograms per liter.

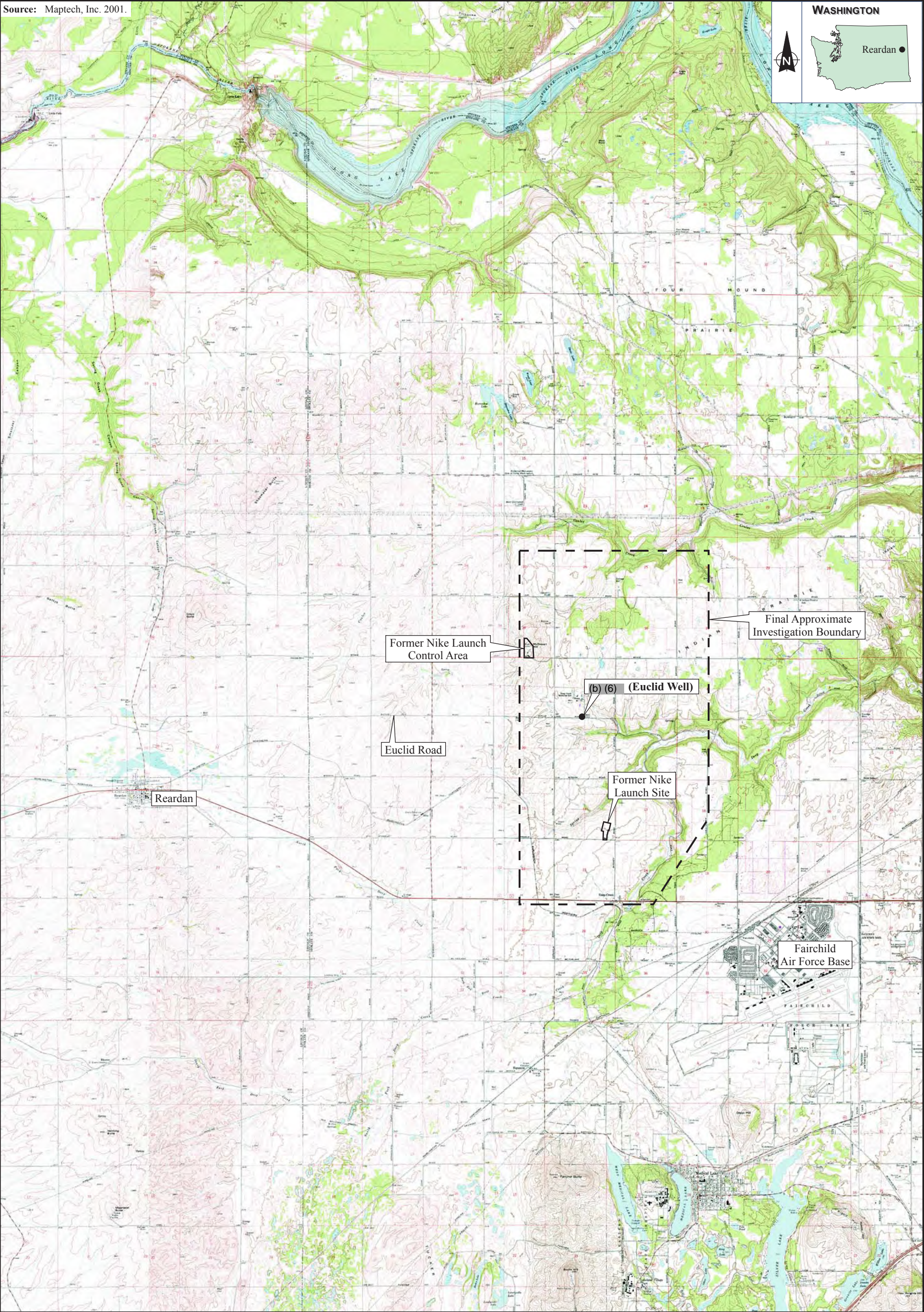
TCE = Trichloroethene.

U = Not detected at the listed quantitation limit.

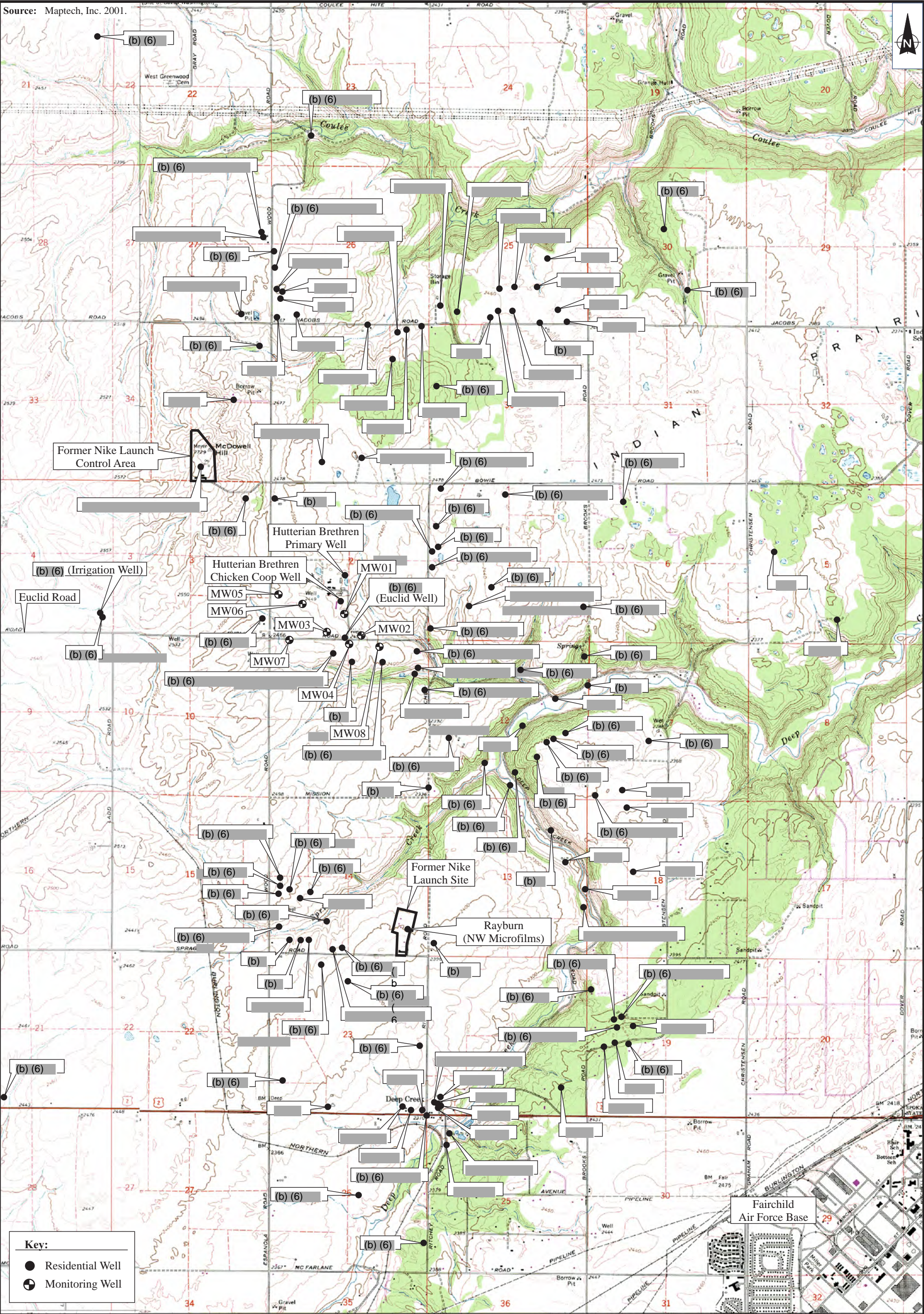
Note: This page intentionally left blank.



Source: Maptech, Inc. 2001.











[illegible]

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 2-3 PREVIOUS INVESTIGATIONS GROUNDWATER SAMPLE LOCATION MAP		
	 Approximate Scale in Feet	Date: 12/10/09	Drawn by: AES	10:START-3\06090002\fig 2-3



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## 3

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## Media Sampling Activities

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EPA tasked E & E START to continue the project in 2006 to evaluate the impact of an unknown source of TCE on groundwater. In addition, samples were collected for NDMA and perchlorate analyses due to the nearby location of the former Nike missile launching site (the former Fairchild Nike Battery 87 site) that at various times housed Ajax and Hercules missiles. The Ajax system utilized UDMH as an igniter while NDMA is a contaminant in UDMH. Hercules missiles used ammonium perchlorate in the propellant mixture. Sampled wells are located at the properties described in Table 2-1 and shown on Figure 2-2.

Sampling activities took place during 14 separate field events which occurred on March 28, April 15, May 26, June 22 and 23, June 25 and 26, August 22, September 14-15, and December 13-15, 2006; April 26, May 23, June 10-15, October 22-26, and November 7, 2007; and June 29 and 30, 2009. Data from these 14 field events are summarized in chronological order in Tables 3-1 through 3-14 and Figures 3-1 through 3-18. Photographic documentation of field activities is provided in Appendix A. As stated in the SSSPs, samples were collected from locations or features considered to be potential contamination sources or targets based on information derived from a review of historical information and recent investigations conducted at the site. Each sample location was recorded with a global positioning system (GPS) unit in the field. The GPS information (Table 2-1) was downloaded to geographic information system (GIS) software or hand-written in the field logbook to be included as a permanent data point on a digital map.

The domestic wells were investigated to determine if the residents were potentially being exposed to NDMA, perchlorate, and/or TCE (subsection 3.1). The monitoring wells were investigated to assist in determining the location(s) of the TCE source(s) and also were sampled for NDMA and perchlorate (subsection 3.2). Results for miscellaneous water samples, including water treatment systems, an irrigation well, backup water supplies, an intermittent stream, and a hospital background location (subsection 3.3), Gore<sup>TM</sup> Module work (subsection 3.4), vapor in-

trusion work (subsection 3.5), the hydrogeologic evaluation (subsection 3.6), and the monitoring well survey (subsection 3.7) are also provided in this section.

When possible, the water sample results were compared to drinking water limits and exceedances are highlighted in the tables. There are no regulatory limits for NDMA in drinking water so no comparison was performed. The perchlorate results were compared to the EPA Region 6 Human Health Medium-Specific Screening Level (HHMSSL) for tap water of 24.5 µg/L (EPA 2007). TCE water results were compared to the MCL of 5 µg/L (EPA 2000b).

### **3.1 Domestic Wells**

The domestic well assessment began with sampling of the wells closest to the Euclid well and expanded as the investigation continued. Some wells were sampled once and then excluded because no contamination was found, but most wells were sampled two or more times to determine if the results fluctuated over time. During the 2006 sampling, the sample collection efforts were expanded several times to include additional domestic wells inside the approximate investigation boundary not previously sampled. Follow-up sampling at several previously sampled locations also occurred throughout the project to determine if any concentration fluctuations had occurred. A total of 133 domestic wells in the ERGW area were sampled by the end of the investigation. Sampling was generally conducted by purging the wells for approximately 15 minutes prior to sample collection then placing the sample containers underneath the appropriate sampling point nearest to the wellhead and collecting the sample aliquots directly into the sample containers. Domestic well groundwater samples were analyzed for NDMA (STL laboratory standard operating procedure [SOP] and/or EPA method 521), perchlorate (EPA method 6860), and/or TCE (EPA method 8260). Throughout the investigation, the specific parameters analyzed for each domestic well sample were modified depending on the location of the well relative to known areas of contamination. Specifically, TCE, NDMA, and perchlorate were only analyzed for those domestic well samples located in or near the suspected area of impact for these contaminants. Also, the NDMA method was changed during the project from the STL SOP to EPA method 521 due to concerns regarding potential false negative results. Copies of the data QA memoranda are included in Appendix B. Quality assurance information is provided in Appendix C.

### **3.1.1 March 2006 Analytical Results**

Groundwater samples were collected from four domestic wells. The sample results are listed in Table 3-1 and are displayed on Figure 3-1 along with the initial approximate investigation boundary for the project. None of the samples had detectable concentrations of NDMA (STL SOP) or TCE but all four domestic wells sampled in March 2006 had detectable concentrations of perchlorate ranging between 0.22 and 1.3 µg/L. None of the domestic well results exceeded applicable action levels.

### **3.1.2 April 2006 Analytical Results**

Based on the positive perchlorate results in March 2006, the sampling effort was expanded in April 2006. Groundwater samples were collected from 19 domestic wells. The sample results are listed in Table 3-2 and are displayed on Figure 3-2. Two of the six samples analyzed for TCE had detectable concentrations (an estimated quantity (J) of 0.24 J µg/L at the Thompson well and 120 µg/L at the Euclid well). Five of the 19 samples analyzed for NDMA (STL SOP) had detectable concentrations ranging between an estimated quantity of 0.0005 J and 0.0026 µg/L. All 19 samples analyzed for perchlorate had detectable concentrations ranging between an estimated quantity of 0.0078 J and 2.1 µg/L. The Euclid well TCE detection was greater than the MCL of 5 µg/L but none of the other results exceeded applicable action levels.

### **3.1.3 May 2006 Analytical Results**

Based on the positive NDMA, perchlorate, and TCE results in April 2006, the sampling effort was again expanded in May 2006. Groundwater samples were collected from seven domestic wells. The sample results are listed in Table 3-3 and are displayed on Figure 3-3. None of the seven samples analyzed for TCE or NDMA (STL SOP) had detectable concentrations. Five of the seven samples analyzed for perchlorate had detectable concentrations ranging between an estimated quantity of 0.051 J and 3.2 µg/L. None of these results exceeded applicable action levels.

### **3.1.4 June 2006 Analytical Results**

Based on the positive perchlorate results in May 2006, the sampling effort was again expanded in June 2006. Groundwater samples were collected from 49 domestic wells in two sampling events, including one domestic well that had been previously sampled (e.g., the Euclid well). The sample results are listed in Tables 3-4 and 3-5 and are displayed on Figures 3-4 and 3-5



along with the approximate final investigation boundary. The approximate investigation boundary was expanded to include locations near Deep Creek as this low area may have been affected due to its downgradient location. Some locations outside the approximate final investigation boundary were included at the OSC's direction. Two of the 45 samples analyzed for TCE (the (b) (6) residence and the Euclid well) had detectable concentrations (19 and 150 µg/L, respectively). Twenty-nine of the 49 samples analyzed for NDMA (STL SOP) had detectable concentrations ranging between estimated quantities of 0.00069 J and 0.0071 J µg/L. Forty-five of 47 samples analyzed for perchlorate had detectable concentrations ranging between 0.016 and 2.0 µg/L. Both TCE detections were above the MCL of 5.0 µg/L but none of the other domestic well results exceeded applicable action levels.

### **3.1.5 August 2006 Analytical Results**

Based on the positive NDMA, perchlorate, and TCE results in June 2006, the sampling effort was again expanded in August 2006. Groundwater samples were collected from 20 domestic wells. The sample results are listed in Table 3-6 and are displayed on Figure 3-6. None of the domestic well samples analyzed for TCE had a detectable concentration. Two of the 19 samples analyzed for NDMA (STL SOP) had detectable concentrations ranging between an estimated quantity of 0.00066 J and 0.0017 µg/L and seven of the 19 samples analyzed for NDMA (EPA method 521) had detectable concentrations ranging between 0.002 and 0.0038 µg/L. Both NDMA methods were utilized in August 2006 to compare the results and determine which method gave more consistent results. Sixteen of the 18 samples analyzed for perchlorate had detectable concentrations ranging between 0.085 and 2.9 µg/L. None of the domestic well results exceeded applicable action levels.

### **3.1.6 September 2006 Analytical Results**

Based on the positive NDMA and perchlorate results in August 2006, the sampling effort was again expanded in September 2006. Additionally, some domestic wells that had been previously sampled (e.g., the Euclid well) were sampled again so that they could be analyzed for NDMA by EPA method 521. Groundwater samples were collected from 38 domestic wells. The sample results are listed in Table 3-7 and are displayed on Figure 3-7. Six of the 37 samples analyzed for NDMA (STL SOP) had detectable concentrations ranging between an estimated quantity of 0.00081 J and 0.0034 µg/L. Ten of the 35 samples analyzed for NDMA (EPA method 521) had detectable concentrations ranging between 0.0021 and 0.003 µg/L. Both NDMA methods were

utilized in September 2006 to gather additional data for method comparison. Eighteen of the 22 samples analyzed for perchlorate had detectable concentrations ranging between 0.12 and 0.97 µg/L. None of the domestic well results exceeded applicable action levels.

### **3.1.7 December 2006 Analytical Results**

Based on the positive sample results in September 2006, the sampling effort was again expanded in December 2006. Groundwater samples were collected from 39 domestic wells. The sample results are listed in Table 3-8 and are displayed on Figures 3-8 and 3-9. None of the 39 samples analyzed for NDMA (EPA method 521) had a detectable concentration. Based on the results from both NDMA methods in August and September 2006, it was decided that EPA method 521 produced more consistent results and was less likely to produce false negative results, so only EPA method 521 was utilized for NDMA analysis after December 2006. Twenty-nine of the 35 samples analyzed for perchlorate had detectable concentrations ranging between an estimated quantity of 0.0093 J and 2.3 µg/L. None of these results exceeded applicable action levels.

### **3.1.8 April 2007 Analytical Results**

Based on previous TCE results, the sampling effort was conducted near the likely TCE source. Groundwater samples were collected from three domestic wells (the (b) (6) residence, the Euclid well, and the Hutterian primary well; other domestic wells sampled as part of residential treatment systems are discussed in Section 3.3) which were submitted for TCE analysis only since NDMA and perchlorate concentrations in the area did not exceed applicable regulatory limits. The sample results are listed in Table 3-9 and are displayed on Figure 3-10. One of the three samples analyzed for TCE had a detectable concentration (the Euclid well with a result of 170 µg/L). This result was greater than the EPA drinking water MCL of 5.0 µg/L.

### **3.1.9 May 2007 Analytical Results**

A groundwater sample was collected from one domestic well, was submitted for TCE analysis, and had a detectable concentration of 0.29 J µg/L. Additional work for May 2007 is covered in subsection 3.4.1. The sample result is listed in Table 3-10 and is displayed on Figure 3-11.

### **3.1.10 June 2007 Analytical Results**

Sampling for NDMA and perchlorate was conducted in June 2007. Groundwater samples were collected from 121 domestic wells. The sample results are listed in Table 3-11 and are displayed

on Figures 3-12 through 3-14. Three of the samples analyzed for NDMA (EPA method 521) had detectable concentrations ranging between 0.0022 and 0.0028 µg/L. One hundred and one samples analyzed for perchlorate had detectable concentrations ranging between an estimated quantity of 0.014 J and 2.4 µg/L. None of these results exceeded applicable action levels.

### **3.1.11 October 2007 Analytical Results**

Based on the previous TCE results, sampling was conducted near the likely TCE source.

Groundwater samples were collected from two domestic wells (the (b) (6) and (b) (6) residences; other domestic wells sampled as part of residential treatment systems are discussed in Section 3.3) and were submitted for TCE analysis. The sample results are listed in Table 3-12 and are displayed on Figure 3-15. There were no TCE detections in these domestic wells and none of the results exceeded applicable action levels.

### **3.1.12 June 2009 Analytical Results**

Based on the previous TCE results, sampling was again conducted near the likely TCE source.

Groundwater samples were collected from two domestic wells (the (b) (6) residences) and were submitted for TCE analysis. The sample results are listed in Table 3-14 and are displayed on Figure 3-18. There were no TCE detections in these domestic wells and none of the results exceeded applicable action levels.

## **3.2 Monitoring Wells**

One of the primary goals of the RA was to determine the extent of TCE contamination. The monitoring well (MW) assessment involved the collection of groundwater samples from four MWs installed by HEC/START-2 and four wells installed by E & E /START-3 in October 2007 in the area of the TCE plume. Sampling was conducted using the low-flow method. Prior to sample collection, the wells were purged at approximately one liter per minute and water parameters (pH, conductivity, temperature, dissolved oxygen, turbidity, and salinity) were measured until three consecutive measurements of groundwater parameters stabilized within 10 % of each other. Monitoring well groundwater samples were analyzed for NDMA, perchlorate, and/or TCE.

### **3.2.1 March 2006 Analytical Results**

Groundwater samples were collected from four MWs and were analyzed for NDMA, perchlorate, and TCE. The sample results are listed in Table 3-1 and are displayed on Figure 3-1. None of the samples had detectable concentrations of NDMA but all four MWs had detectable concentrations of perchlorate (ranging between 0.67 and 1.0 µg/L) and TCE. Three of four TCE detections (ranging between an estimated quantity of 0.87 J and 210 µg/L) were greater than the EPA drinking water MCL of 5.0 µg/L, while none of the other results exceeded applicable action levels.

### **3.2.2 June 2006 Analytical Results**

Groundwater samples were collected from four monitoring wells and were analyzed for TCE. The sample results are listed in Table 3-4 and are displayed on Figures 3-4 and 3-5. All four MWs had detectable concentrations of TCE, with three of four detections (ranging between 4.3 and 210 µg/L) greater than the EPA drinking water MCL of 5.0 µg/L.

### **3.2.3 September 2006 Analytical Results**

Groundwater samples were collected from four monitoring wells and were analyzed for TCE. The sample results are listed in Table 3-7 and are displayed on Figure 3-7. All four TCE detections (ranging between 8.3 and 170 µg/L) were greater than the EPA drinking water MCL of 5.0 µg/L.

### **3.2.4 December 2006 Analytical Results**

Groundwater samples were collected from four monitoring wells and were analyzed for TCE. The sample results are listed in Table 3-8 and are displayed on Figures 3-8 and 3-9. All four TCE detections (ranging between 6.8 and 190 µg/L) were greater than the EPA drinking water MCL of 5.0 µg/L.

### **3.2.5 April 2007 Analytical Results**

Groundwater samples were collected from four monitoring wells and were analyzed for TCE. The sample results are listed in Table 3-9 and are displayed on Figure 3-10. All four MWs had detectable concentrations of TCE (ranging between 3.4 and 200 µg/L) and three of these detections were greater than the EPA drinking water MCL of 5.0 µg/L.

### 3.2.6 October 2007 Analytical Results

Four additional monitoring wells were installed by E & E/START-3 at the site between October 20 and 22, 2007. These wells were installed to attempt to determine the source of the TCE contamination and the migration pathway of the TCE plume and were installed to depths ranging from 66 to 113.5 feet bgs. Well logs are included in Appendix D. Water bearing fractured zones were encountered within the weathered basalt in each of the well borings at depths ranging from 43 to 89 feet bgs. The static water levels measured in each of the wells ranged from 31.51 to 70.90 feet bgs. A potentiometric surface contour map created for the project indicated groundwater flow to the east-southeast (Appendix D). The groundwater gradient generally mimics topography. Monitoring well MW05 is located adjacent to the Hutterite driveway, monitoring well MW06 is located west of the Hutterite potato barn, monitoring well MW07 is located on (b) (6) property south of Euclid Road, and MW08 is located on (b) (6) property just east of the boundary with (b) (6) property.

Groundwater samples were collected from the eight area monitoring wells and were analyzed for TCE. The sample results are listed in Table 3-12 and are displayed on Figure 3-15. Five of the eight MWs had detectable concentrations of TCE (ranging between 1.7 and 160 µg/L), with four of the five TCE detections greater than the EPA drinking water MCL of 5.0 µg/L.

### 3.2.7 June 2009 Analytical Results

Groundwater samples were collected from the eight area monitoring wells and were analyzed for TCE. The sample results are listed in Table 3-14 and are displayed on Figure 3-18. Five of the eight MWs had detectable concentrations of TCE (ranging between 1.2 and 240 µg/L), with three of the five TCE detections greater than the EPA drinking water MCL of 5.0 µg/L.

## 3.3 Miscellaneous Water Samples

In addition to the domestic and monitoring well samples, the START collected water samples from three groundwater treatment systems ((b) (6)), the (b) (6) irrigation well, the Hutterian Chicken Coop well the (b) (6) backup well, an intermittent stream on (b) (6) property on the north side of Euclid Road, the Eastern State Hospital well, and the (b) (6) backup well. The (b) (6) system is at the former Nike control site owned by (b) (6) and occupied by two sets of renters during the project. The (b) (6) system was initially owned by (b) (6) and was purchased by (b) (6)

(b) (6) during the project. Sample collection at the (b) (6) backup wells and at the intermittent stream was conducted by dipping the sample container into the water source and collecting the sample directly into the container. Sampling for the other locations was conducted by purging the water for 10 to 15 minutes prior to sample collection, then collecting the samples by placing the sample containers underneath the appropriate sampling point and collecting the sample aliquots directly into the sample containers. The miscellaneous water samples were analyzed for NDMA, perchlorate, and/or TCE. Copies of the data QA memoranda are included in Appendix B.

Two treatment systems were sampled in December 2006 (the (b) (6) system was not sampled because the (b) (6) family was in the process of selling the residence and no longer lived there) and were analyzed for TCE. The (b) (6) pre-treatment result was 77 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid- and post-treatment results were both below detection limits. The (b) (6) pre-treatment result was 110 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid- and post-treatment results were both below detection limits. The sample results are listed in Table 3-8 and are displayed on Figures 3-8 and 3-9.

The treatment systems and the Chicken Coop well were sampled in April 2007 and were analyzed for TCE. The (b) (6) pre-treatment result was 77 µg/L (the field duplicate result for this sample was an estimated quantity of 70 J µg/L), exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid- and post-treatment results were both below detection limits. The (b) (6) pre-treatment result was 12 µg/L (the field duplicate result for this sample was 17 µg/L), exceeding the EPA drinking water MCL of 5.0 µg/L, the mid-treatment result was an estimated quantity of 0.21 J µg/L, and the post-treatment result was below the detection limit. The (b) (6) pre-treatment result was 120 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid- and post-treatment results were both below detection limits. The Chicken Coop well result was below detection limits. The sample results are listed in Table 3-9 and are displayed on Figure 3-10.

The treatment systems were sampled in October 2007 and were analyzed for TCE. The (b) (6) pre-treatment result was 69 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid-treatment result was 1.8 µg/L and the post-treatment result was below detection limits. The

(b) (6) pre-treatment result was 16 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, and the mid- and post-treatment results were below detection limits. The (b) (6) residence pre-treatment result was 120 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid- and post-treatment results were both below detection limits. The sample results are listed in Table 3-12 and are displayed on Figure 3-15.

The treatment systems were sampled in June 2009 and were analyzed for TCE. The (b) (6) pre-treatment result was 69 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid-treatment and post-treatment results were below detection limits. The (b) (6) pre-treatment result was 22 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, and the mid- and post-treatment results were below detection limits. The (b) (6) pre-treatment result was 60 µg/L, exceeding the EPA drinking water MCL of 5.0 µg/L, while the mid- and post-treatment results were both below detection limits. The sample results are listed in Table 3-14 and are displayed on Figure 3-18.

The sample from the (b) (6) irrigation well (used for the family garden) was collected in June 2006 and was analyzed for TCE (not detected), NDMA (STL SOP; 0.0014 µg/L), and perchlorate (1.1 µg/L). None of the results exceeded applicable action levels. The sample results are listed in Table 3-5 and are displayed on Figure 3-4.

The (b) (6) backup well samples were collected in August 2006 and October 2007, were analyzed for TCE, and the results (12 µg/L and 23 µg/L, respectively) exceeded the MCL of 5.0 µg/L. The sample results are listed in Tables 3-6 and 3-12 and are displayed on Figures 3-6 and 3-15, respectively.

The intermittent stream sample from the (b) (6) property was collected in May 2007, was analyzed for TCE, and the result was less than detection limits. The sample result is listed in Table 3-10 and is displayed on Figure 3-11.

The Eastern State Hospital well sample was collected in June 2007, was analyzed for NDMA (EPA method 521) and perchlorate, and the results were less than detection limits. The location of this well is not shown on any figures but it is approximately 2.5 miles south/southeast of the (b) (6) residence (Figure 2-2). The sample results are listed in Table 3-11.

The (b) (6) backup tank sample was collected in June 2007, was analyzed for NDMA (EPA method 521) and perchlorate, and the results for NDMA were less than detection limits but the perchlorate result was 0.20 µg/L. The sample results are listed in Table 3-11 and are displayed on Figure 3-12.

### **3.4 Gore™ Modules**

Gore™ Modules are passive, sorbent-based samplers constructed of a GORETEX® membrane tube that collects VOCs present in water and soil gas. VOCs present in soil diffuse through the membrane to the adsorbent material, while liquid water and soil particles are prevented from contacting the adsorbent. The adsorbents are located in the bottom of an approximately one-foot length of the membrane tube. The Gore™ Modules were used to attempt to determine the TCE source location by placing them near areas of known TCE groundwater contamination.

#### **3.4.1 May 2007 Analytical Results**

On May 23, 2007, the START placed 18 Gore™ Modules at three locations, six at each location (not including blanks). Five-eighths inch diameter boreholes were installed manually to a depth of one to three feet bgs using stainless steel rods. The modules were placed in the boreholes and were left in place for a minimum of 14 days (equal to the manufacturers' instructions of at least 14 days) before retrieval. Borehole installation and sample collection instructions from the manufacturer were followed. The modules were placed in two locations of known TCE contamination (near monitoring wells MW01 and MW02) and in one area of no known TCE contamination (near the Hutterite primary well) to determine the effectiveness of the technology. Seventeen of the modules were retrieved on June 10, 2007 (one module was not retrieved because the sample cord broke) and were sent to the Gore Module Laboratory in Elkton, Maryland. Sample results from this sampling event are listed in Table 3-10 and are displayed on Figure 3-11. The results indicated no detectable TCE in any of the samples. Chloroform was detected at 0.07 micrograms at location GM-11 and 0.20 micrograms at location GM-12, with both samples located near monitoring well MW01.

#### **3.4.2 October 2007 Analytical Results**

On October 24, 2007, the START placed 32 Gore™ Modules in soil at several locations within the site boundary and three Gore™ Modules each in MWs -01 through -04. Five-eighths inch



diameter boreholes were installed manually to a depth of one to three feet bgs using stainless steel rods. The modules were placed in the boreholes and were left in place for a minimum of 14 days (equal to the manufacturers' instructions of at least 14 days) before retrieval. All borehole and sample collection instructions from the manufacturer were followed. The modules in the MWs were left in place for a minimum of two hours (equal to the manufacturers' recommendations) before retrieval. One module was placed in the headspace above the water and two modules were placed in the water at each of the MWs. Forty-three of these modules were retrieved on November 7, 2007 (one soil module was not retrieved because the sample cord broke) and were sent to the Gore Module Laboratory in Elkton, Maryland. Results from this sampling event are listed in Table 3-13 and are displayed on Figures 3-16 and 3-17. The results indicated TCE detections in MW02 (a module placed in the water) and MW04 (a module near the water in the headspace) and chlorobenzene, 1,4-dichlorobenzene, 1,1,1,2-tetrachloro-ethane and 1,3-dichlorobenzene detections on Hutterite property near Wood Road south of the driveway.

### **3.5 Vapor Intrusion**

SUMMA® canisters are electropolished stainless steel passivated vessels used to collect whole air samples. The polishing process passivates the stainless steel by creating a chromium oxide-rich surface layer on the interior of the canister. The canisters were used to attempt to determine the TCE source location by placing them near areas of known TCE contamination. Samples were collected for approximately 24 hours at background locations upwind of the Hall and Eugene Thompson residences, upstairs and downstairs at the Eugene Thompson residence, and inside the house and underneath the house at the Hall residence.

#### **3.5.1 June 2009 Analytical Results**

Sample results from this sampling event are listed in Table 3-14 and are displayed on Figure 3-18. TCE was detected in all six samples ranging between 0.052 and 0.52 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), with the (b) (6) residence downstairs, (b) (6) residence upstairs, and (b) (6) residence downstairs samples exceeding the Washington MTCA Method B limits for residential air of  $0.1 \mu\text{g}/\text{m}^3$ .

### **3.6 Hydrogeologic Evaluation**

As part of the RA, an E & E hydrogeologist completed a Hydrogeologic Evaluation report (E & E 2006b; Appendix E). The report included a review of available driller's logs for private supply wells located in the project area and an evaluation of the elevations of water-bearing zones and water levels in these wells. Twenty-four private-supply wells, two springs, and four monitoring wells were included in the evaluation. The evaluation indicated that it is unclear whether the occurrence of NDMA and perchlorate in groundwater at the site is related to a common source for both contaminants, while the limited extent of detected TCE groundwater contamination in the project area suggests the TCE source is unrelated to any potential source(s) of NDMA and perchlorate.

### **3.7 Monitoring Well Survey And Groundwater Flow Direction**

As part of the RA, E & E subcontracted a well survey for monitoring wells MW05 through MW08 through White Shield, Inc. (Appendix D). The survey allowed E & E personnel to calculate the groundwater flow direction in the area of the eight monitoring wells. Figures in Appendix D include the groundwater flow directions for the months of November 2005, March 2006, September 2006, December 2006, April 2007, and October 2007. In general, the groundwater flow was to the east-southeast.

Table 3-1

**MARCH 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY**  
**EUCLID ROAD TCE MONITORING SITE**  
**REARDAN, WASHINGTON**

EPA Sample ID	06030901	06030902	06030903	06030904	06030905	06030906	06030907	06030910	06030911	Action Levels
Station Location	(b) (6)			Hutterian Brethren	(b) (6)	Hutterian Brethren	(b) (6)	Trip Blank 1	(b) (6)	
Description	Inside Faucet	Outside Spigot	Outside Spigot	MW01	MW02	MW03	MW04	Trip Blank	Outside Spigot	
VOCs (µg/L)										
Trichloroethene	1.0 U	1.0 U	1.0 U	0.87 J	110	210	130	1.0 U	1.0 U	5.0
SVOCs (µg/L)										
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	na	0.001 U	NV
Perchlorate	0.22	0.47	1.2	0.67	0.88	1.0	1.0	na	1.3	24.5

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed action levels.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-2

**APRIL 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06040001	06040002	06040003	06040004	06040005	06040006	06040007	Action Levels
Station Location	Hutterian Brethren	(b) (6)						
Description	Inside Faucet	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	na	120	na	na	0.24 J	na	1.0 U	
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.00069 J	0.001 U	0.002	0.001 U	0.001 U	0.001 U	NV
Perchlorate	0.037	0.82	0.89	1.5	1.1	1.1	0.0078 J	24.5
EPA Sample ID	06040008	06040009	06040010	06040011	06040012	06040013	06040014	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	na	na	na	na	
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.0026	0.0005 J	0.001 U	0.0011	0.001 U	NV
Perchlorate	2.1	1.1	0.91	1.1	0.22	0.44	0.093	24.5

EPA Sample ID	06040015	06040016	06040017	06040018	06040019	06040025	Action Levels
Station Location	(b) (6)					Trip Blank 2	
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Trip Blank	
VOCs (µg/L)							
Trichloroethene	na	na	na	na	na	1.0 U	5.0
SVOCs (µg/L)							
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.001 UJ	0.001 U	na	NV
Perchlorate	0.24	0.48	0.97	1.7	0.015	na	24.5

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed action levels.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

UJ = The associated detection limit is an estimated quantity.

VOCs = Volatile organic compounds.

Table 3-3

**MAY 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06050901	06050902	06050903	06050904	06050905	06050906	06050907	06050911	Action Levels
Station Location	(b) (6)							Trip Blank 3	
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Trip Blank	
VOCs (µg/L)									
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)									
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	na	NV
Perchlorate	<b>0.051 J</b>	0.10 U	0.10 U	<b>0.69</b>	<b>0.065 J</b>	<b>1.1</b>	<b>3.2</b>	na	24.5

Note: Bold type indicates the sample result is above the detection limit.

## Key:

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-4

**PHASE 1 JUNE 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06060901	06060902	06060903	06060904	06060905	06060907	06060908	Action Levels
Station Location	Hutterian Brethren	(b) (6)	Hutterian Brethren	(b) (6)				
Description	MW01	MW02	MW03	MW04	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	4.3	130	210	150	na	19	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	na	na	na	na	0.001 U	0.001 U	0.001 U	NV
Perchlorate	na	na	na	na	1.1	1.2	1.2	24.5

EPA Sample ID	06060909	06060911	06060912	06060913	06060914	06060915	06060918	Action Levels
Station Location	(b) (6)							
Description								
	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	na	na	na	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.0013 J	0.0071 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NV
Perchlorate	0.56	1.1	0.21	0.8	0.83	0.77	1.1	24.5

EPA Sample ID	06060919	06060920	06060921	06060922	06060923	06060924	06060925	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.00069 J	0.00081 J	NV
Perchlorate	0.90	0.010 U	0.016	0.51	0.24	0.71	0.7	24.5

Key is found on next page.

Table 3-4

**PHASE 1 JUNE 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06060926	06060927	06060928	06060929	06060930	Action Levels
Station Location	(b) (6)			Trip Blank 4	Trip Blank 5	
Description	Outside Spigot	Outside Spigot	After Filter	Trip Blank	Trip Blank	
VOCs (µg/L)						
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)						
NDMA (STL SOP)	0.001 U	0.001 U	<b>0.0023</b>	na	na	NV
Perchlorate	<b>0.71</b>	<b>0.78</b>	<b>0.028</b>	na	na	24.5

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed action levels.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-5

**PHASE 2 JUNE 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06060801	06060802	06060803	06060804	06060805	06060806	06060807	Action Levels
Station Location	(b) (6)							
Description	Inside Faucet	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Irrigation Well	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.0039	0.0032	0.001 U	0.0015	0.00085 J	0.0011	0.0014	NV
Perchlorate	1.2	0.42	0.21	0.59	1.2	0.75	1.1	24.5

EPA Sample ID	06060808	06060809	06060810	06060811	06060812	06060813	06060814	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	150	
SVOCs (µg/L)								
NDMA (STL SOP)	0.0023	0.0047	0.0065	0.001 U	0.0012	0.0034 U	0.0052	NV
Perchlorate	0.010 U	2	0.36	0.4	0.023	na	0.93	24.5

EPA Sample ID	06060815	06060816	06060817	06060818	06060819	06060820	06060821	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Inside Faucet	Inside Faucet	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.0033	0.0034	0.0034	0.0033	0.0016	0.001 U	0.0035	NV
Perchlorate	0.44	0.38 J	0.56	0.010 U	1.5	0.85	0.18	24.5

The key is found on the next page.



Table 3-5

**PHASE 2 JUNE 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06060822	06060823	06060824	06060825	06060826	06060827	06060828	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.0016	0.003	0.0062	0.0058	0.0038	0.0055	0.0046	NV
Perchlorate	0.010 U	0.1	na	0.62	0.97	0.62	0.67	24.5

EPA Sample ID	06060829	06060830	Action Levels
Station Location	(b) (6)	Trip Blank 6	
Description	Outside Spigot	Trip Blank	
VOCs (µg/L)			
Trichloroethene	1.0 U	1.0 U	5.0
SVOCs (µg/L)			
NDMA (STL SOP)	0.001 U	na	NV
Perchlorate	<b>1</b>	na	24.5

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed action levels.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration

is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-6

**AUGUST 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06080501	06080502	06080503	06080504	06080505	06080506	06080507	Action Levels
Station Location	(b) (6)							
Description	Inside Faucet	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	na	na	na	na	na	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 UJ	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	0.002 U	0.0021 UJ	0.002 U	0.0035	0.0038	0.002 U	0.0026	NV
Perchlorate	0.67	0.65	0.15	0.72	na	0.72	0.64	24.5

EPA Sample ID	06080508	06080509	06080510	06080511	06080512	06080513	06080514	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.0017	0.001 U	0.00066 J	0.001 U	0.001 U	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	0.002 U	0.0025	0.002 U	0.002 U	0.002 U	0.0027	0.002 U	NV
Perchlorate	0.085	0.51	2.9	0.02 U	1.8	1.3	0.31	24.5

EPA Sample ID	06080515	06080516	06080517	06080518	06080520	06080521	06080522	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Kitchen Faucet	Backup Tank	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	12	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	na	na	NV
NDMA (CAS EPA Method 521)	0.002 U	0.0026	0.002 U	0.002	0.002 U	na	na	NV
Perchlorate	0.02 U	1.0	0.33	0.36	1.3	na	na	24.5

Key is found on the next page.

Table 3-6

**AUGUST 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

<b>EPA Sample ID</b>	<b>06080523</b>
<b>Station Location</b>	<b>Trip Blank 7</b>
<b>Description</b>	<b>Trip Blank</b>
<b>VOCs (µg/L)</b>	
Trichloroethene	1.0 U
<b>SVOCs (µg/L)</b>	
NDMA (STL SOP)	na
NDMA (CAS EPA Method 521)	na
Perchlorate	na

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed detection levels.

CAS = Columbia Analytical Services.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration

is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

UJ = The analyte was not detected at or above the listed estimated detection limit.

VOCs = Volatile organic compounds.

Table 3-7

**SEPTEMBER 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06090601	06090602	06090603	06090604	06090605	06090606	06090607	Action Levels
Station Location	Hutterian Brethren	Harris Property	Hutterian Brethren	(b) (6)				
Description	MW01	MW02	MW03	MW04	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	8.3	110	170	140	na	na	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	na	na	na	na	0.0034	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	na	na	na	na	0.003	0.0023	0.002 U	NV
Perchlorate	na	na	na	na	na	na	0.28	24.5

EPA Sample ID	06090608	06090609	06090610	06090611	06090612	06090613	06090614	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	na	na	na	1.0 U	na	na	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.0026	0.001 U	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.0024	0.0025	0.002 U	0.0021	0.002 U	NV
Perchlorate	0.31	na	na	na	0.01 U	na	na	24.5

EPA Sample ID	06090615	06090616	06090617	06090618	06090619	06090620	06090621	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Inside Faucet	
VOCs (µg/L)								
Trichloroethene	na	na	na	na	na	na	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.0016	0.00043 J	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	na	0.002 U	0.002 U	0.003	na	0.002 U	na	NV
Perchlorate	na	na	na	na	na	na	0.97	24.5

EPA Sample ID	06090622	06090623	06090624	06090625	06090626	06090627	06090628	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	na	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	0.0021	0.002 U	0.002 U	0.0029	0.002 U	0.002 U	0.0021	NV
Perchlorate	0.46	0.010 U	0.3	0.65	na	0.010 U	0.44	24.5

Key is found on the next page.

Table 3-7

**SEPTEMBER 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06090629	06090630	06090631	06090632	06090633	06090635	06090636	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	na	1.0 U	1.0 U	1.0 U	1.0 U	
SVOCs (µg/L)								
NDMA (STL SOP)	0.001 U	0.001 U	0.00081 J	0.001 U	0.001 U	0.001 U	0.001 U	NV
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.010 U	0.43	0.51	0.12	0.16	0.76	0.68	24.5

EPA Sample ID	06090637	06090639	06090640	06090641	06090642	06090643	06090644	Action Levels	
Station Location	(b) (6)	Trip Blank 8	(b) (6)						
Description	Outside Spigot		Trip Blank	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot		Outside Spigot
VOCs (µg/L)									
Trichloroethene	1.0 U	1.0 U	na	na	1.0 U	1.0 U	1.0 U	5.0	
SVOCs (µg/L)									
NDMA (STL SOP)	0.001 U	na	0.001 U	0.001 U	0.001 U	0.001 U	0.001	NV	
NDMA (CAS EPA Method 521)	0.002 U	na	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV	
Perchlorate	0.67	na	na	na	0.33	0.14	0.38	24.5	

EPA Sample ID	06090645	Action Levels
Station Location	(b) (6)	
Description	Outside Spigot	
VOCs (µg/L)		
Trichloroethene	1.0 U	5.0
SVOCs (µg/L)		
NDMA (STL SOP)	0.001 U	NV
NDMA (CAS EPA Method 521)	<b>0.0023</b>	NV
Perchlorate	<b>0.36</b>	24.5

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed action levels.

CAS = Columbia Analytical Services.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

STL SOP = Severn-Trent Laboratory Standard Operating Procedure.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-8

**DECEMBER 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06121004	06121005	06121006	06121007	06121008	06121009	06121010	Action Levels
Station Location	(b) (6)				Hutterian Brethren	(b) (6)	Hutterian Brethren	
Description	MW04	Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	MW01	MW02	MW03	
VOCs (µg/L)								
Trichloroethene	160	77	1.0 U	1.0 U	6.8	150	190	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	na	na	na	na	na	na	na	NV
Perchlorate	na	na	na	na	na	na	na	24.5

EPA Sample ID	06121011	06121012	06121013	06121014	06121015	06121016	06121017	Action Levels
Station Location	(b) (6)							
Description	Treatment System Post-Treatment	Treatment System Mid-Treatment	Treatment System Pre-Treatment	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	110	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	na	na	na	na	na	0.002 U	0.002 U	NV
Perchlorate	na	na	na	na	na	0.067	0.55	24.5

EPA Sample ID	06121018	06121019	06121020	06121021	06121022	06121023	06121024	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot-House	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.16	0.39	0.0093 J	0.49	1.0	2.1	0.010 U	24.5

Table 3-8

**DECEMBER 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06121025	06121026	06121027	06121028	06121029	06121030	06121031	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.62	0.063	0.41	0.43	0.57	0.62	0.53	24.5

EPA Sample ID	06121032	06121033	06121034	06121035	06121036	06121037	06121038	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	2.3	0.85	0.017	0.70	0.23	0.25	0.010 U	24.5

EPA Sample ID	06121039	06121040	06121041	06121042	06121043	06121044	06121045	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	1.6	0.010 U	1.1	0.043	0.3	0.53	0.010 U	24.5

Table 3-8

**DECEMBER 2006 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	06121046	06121047	06121048	06121049	06121050	06121051	06121052	Action Levels
Station Location	(b) (6)		Northwest Microfilms	(b) (6)		Hutterian Brethren Chicken	Hutterian Brethren	
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot-Barn	Outside Spigot	Inside Spigot	Outside Spigot	
VOCs (µg/L)								
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.32 J	1.0 U	5.0
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	na	na	NV
Perchlorate	0.68	1	0.010 U	0.010 U	0.078	na	na	24.5

EPA Sample ID	06121053	06121054	06121055	06121056	06121057	06121060	Action Levels
Station Location	(b) (6)				Trip Blank 9	Field Blank	
Description	Outside Spigot	Inside Faucet	Outside Spigot	Outside Spigot	Trip Blank	Field Blank	
VOCs (µg/L)							
Trichloroethene	na	na	na	1.0 U	1.0 U	na	5.0
SVOCs (µg/L)							
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	na	0.002 U	NV
Perchlorate	na	na	na	na	na	na	24.5



### Table 3-8 Key

Note: Bold type indicates the sample result is above the detection limit.

Key: **Shaded** results are greater than the listed action levels.

CAS = Columbia Analytical Services.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

mg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

SVOCs = Semivolatile organic compounds.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-9

**APRIL 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07040101	07040102	07040103	07040104	07040105	07040106	07040108	Action Levels
Station Location	Hutterian Brethren	(b) (6)	Hutterian Brethren	(b) (6)				
Description	MW01	MW02	MW03	MW04	Treatment System Pre-Treatment	Outside Spigot (Domestic Well)	Outside Spigot (Domestic Well)	
VOCs (µg/L)								
Trichloroethene	3.4	170	200	150	12	1.0 U	170	5.0
EPA Sample ID	07040109	07040110	07040111	07040112	07040113	07040114	07040115	Action Levels
Station Location	(b) (6)						Trip Blank 10	
Description	Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	Trip Blank	
VOCs (µg/L)								
Trichloroethene	77	1.0 U	1.0 U	120	1.0 U	1.0 U	1.0 U	5.0

EPA Sample ID	07040116	07040117	07040118	07040119	07040120	07040121	Action Levels
Station Location	Hutterian Brethren Primary Well	Hutterian Brethren Chicken Coop	(b) (6)				
Description	Outside Spigot (Domestic Well)	Inside Faucet	Treatment System Pre-Treatment (Duplicate)	Treatment System Mid-Treatment	Treatment System Post-Treatment	Treatment System Pre-Treatment (Duplicate)	
VOCs (µg/L)							
Trichloroethene	1.0 U	1.0 U	70 J	0.21 J	1.0 U	17	5.0

### Table 3-9 Key

Note: Bold type indicates the sample result is above the detection limit.

Key:  
Shaded results are greater than the listed action levels.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

mg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-10

**MAY 2007 COMMERCIAL LABORATORY SAMPLE ANALYTICAL RESULTS SUMMARY**  
**EUCLID ROAD TCE MONITORING SITE**  
**REARDAN, WASHINGTON**

EPA Sample ID	07050001	07050002	07050003	07050004	07050005	07050006	07050007	Action Levels
Station Location	GM-01	GM-02	GM-03	GM-04	GM-05	GM-06	GM-07	
Description	MW02	MW02	MW02	MW02	MW02	MW02	Blank	
VOCs (µg)								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

Table 3-10

**MAY 2007 COMMERCIAL LABORATORY SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07050008	07050009	07050010	07050011	07050012	07050013	07050014	Action Levels
Station Location	GM-08	GM-09	GM-10	GM-11	GM-12	GM-13	GM-14	
Description	MW01	MW01	MW01	MW01	MW01	MW01	Blank	
VOCs (µg)								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.07	0.20	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

Table 3-10

**MAY 2007 COMMERCIAL LABORATORY SAMPLE ANALYTICAL RESULTS SUMMARY**  
**EUCLID ROAD TCE MONITORING SITE**  
**REARDAN, WASHINGTON**

EPA Sample ID	07050015	07050016	07050017	07050018	07050019	07050020	07050021	Action Levels
Station Location	GM-15	GM-16	GM-17	GM-18	GM-19	GM-20	GM-21	
Description	Hutterian Primary Well	Hutterian Primary Well	Hutterian Primary Well	Hutterian Primary Well	Hutterian Primary Well	Hutterian Primary Well	Blank	
VOCs (µg)								
Chlorobenzene	0.01 U	NR	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	NR	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	NR	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	NR	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	NR	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	NR	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	NR	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	NR	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	NR	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	NR	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	NR	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	NR	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	NR	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	NR	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	NR	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	NR	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	NR	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	NR	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	NR	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

EPA Sample ID	07050200	07050201	07050202	Action Levels
Station Location	May 2007-22	May 2007-23	May 2007-24	
Description	(b) (6)	Trip Blank 11	Intermittent Stream	
VOCs (µg/L)				
Trichloroethene	0.29 J	1.0 U	1.0 U	5.0

### Table 3-10 Key

Bold type indicates the sample result is above the detection limit.

Note: Key:

EPA = United States Environmental Protection Agency.

GM = Gore<sup>TM</sup> Module.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

MW = Monitoring well.

µg = Micrograms.

na = Not analyzed.

NR = Not retrieved.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-11

**JUNE 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07060001	07060002	07060003	07060004	07060005	07060006	07060007	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
Perchlorate	0.028 J	0.10 U	0.22	0.31	0.49	0.55	0.53	24.5

EPA Sample ID	07060008	07060009	07060010	07060011	07060012	07060013	07060014	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
Perchlorate	0.56	0.10 U	0.066 J	0.097 J	0.31	0.31	0.28	24.5

EPA Sample ID	07060015	07060016	07060017	07060018	07060019	07060020	07060021	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 UJ	
Perchlorate	0.81	0.63	0.69	0.66	0.75	1.1	1.0	24.5

EPA Sample ID	07060022	07060023	07060024	07060025	07060026	07060027	07060028	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.0022	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.097 J	1.2	0.72	0.050 J	0.054 J	0.10 U	0.10 U	24.5



Table 3-11

**JUNE 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07060029	07060030	07060031	07060032	07060033	07060034	07060035	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.055 J	0.039 J	0.50	1.5	0.64	0.50	0.35	24.5

EPA Sample ID	07060036	07060037	07060038	07060039	07060040	07060041	07060042	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.26	0.53	1.4	0.31	1.3	1.3	1.9	24.5

EPA Sample ID	07060043	07060044	07060045	07060046	07060047	07060048	07060049	Action Levels
Station Location	(b) (6)						Hutterian Brethren (Primary Well)	
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	1.0	1.1	0.89	0.26	0.27	2.4	0.043 J	24.5

EPA Sample ID	07060050	07060051	07060052	07060053	07060054	07060055	07060056	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	1.50	0.81	0.29	0.10 U	0.10 U	0.13	0.57	24.5

Table 3-11

**JUNE 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07060057	07060058	07060059	07060060	07060061	07060062	07060063	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 UJ	0.002 U	0.002 U	NV
Perchlorate	1.30	0.55	0.19	0.30	0.38 J	0.17	0.14	24.5

EPA Sample ID	07060064	07060065	07060066	07060067	07060068	07060069	07060070	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.69	1.2	0.10 U	0.59	0.46	1.6	1.0	24.5

EPA Sample ID	07060071	07060072	07060073	07060074	07060075	07060076	07060077	Action Levels
Station Location	(b) (6)				Northwest Microfilms	(b) (6)		
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0028	0.002 U	NV
Perchlorate	1.0	0.10 U	0.96	0.47	0.10 U	0.021 J	2.0	24.5

EPA Sample ID	07060078	07060079	07060080	07060081	07060082	07060083	07060084	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 UJ	0.002 U	0.002 U	0.002 U	NV
Perchlorate	1.2	1.1	0.98	0.53 J	0.23	0.67	0.61	24.5

Table 3-11

**JUNE 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07060085	07060086	07060087	07060088	07060089	07060090	07060091	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.70	0.91	0.10 U	0.10 U	0.10 U	0.10 U	0.82	24.5

EPA Sample ID	07060092	07060093	07060094	07060095	07060096	07060097	07060098	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.014 J	0.68	0.10 U	0.10 U	0.40	0.46	0.45	24.5

EPA Sample ID	07060099	07060100	07060101	07060102	07060103	07060104	07060105	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 UJ	0.002 U	0.002 U	0.002 U	0.0026	NV
Perchlorate	0.41	0.37	0.35	0.61	0.10 U	0.42	0.55	24.5

EPA Sample ID	07060106	07060107	07060108	07060109	07060110	07060111	07060112	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.40	0.42	0.066 J	0.56	0.48	0.10 U	0.77	24.5

Table 3-11

**JUNE 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07060113	07060114	07060115	07060116	07060117	07060118	07060119	Action Levels
Station Location	(b) (6)							
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)								
NDMA (CAS EPA Method 521)	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NV
Perchlorate	0.022 J	0.63	0.70	0.016 J	0.10 U	0.70	0.10 U	24.5

EPA Sample ID	07060120	07060121	07060122	07060123	Action Levels
Station Location	(b) (6)		Eastern State Hospital Well	(b) (6)	
Description	Outside Spigot	Outside Spigot	Outside Spigot	Outside Spigot	
SVOCs (µg/L)					
NDMA (CAS EPA Method 521)	0.002 U	0.002 UJ	0.002 U	0.002 U	NV
Perchlorate	0.10 U	0.10 U	0.10 U	0.20	24.5

### Table 3-11 Key

Note: Bold type indicates the sample result is above the detection limit.

Key:

CAS = Columbia Analytical Services

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration

is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

NDMA = N-nitrosodimethylamine.

NV = No value.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-12

**OCTOBER 2007 COMMERCIAL LABORATORY GROUNDWATER SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07100501	07100502	07100503	07100504	07100505	07100506	07100507	Action Levels
Station Location	Trip Blank 12	(b) (6)						
Description	Trip Blank	Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	Treatment System Post-Treatment	Treatment System Mid-Treatment	Treatment System Pre-Treatment	
VOCs (µg/L)								
Trichloroethene	1.0 U	69	1.8	1.0 U	1.0 U	1.0 U	120	

EPA Sample ID	07100508	07100509	07100510	07100511	07100512	07100513	07100514	Action Levels
Station Location	(b) (6)					Hutterian Brethren	(b) (6)	
Description	Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	Outside Spigot (Domestic Well)	Outside Spigot (Domestic Well)	MW01	MW02	
VOCs (µg/L)								
Trichloroethene	<b>16</b>	1.0 U	1.0 U	1.0 U	1.0 U	<b>8.7</b>	<b>110</b>	5.0

EPA Sample ID	07100515	07100516	07100517	07100518	07100519	07100520	07100521	Action Levels
Station Location	Hutterian Brethren	(b) (6)	Hutterian Brethren	Hutterian Brethren	(b) (6)			
Description	MW03	MW04	MW05	MW06	MW07	MW08	Backup Tank	
VOCs (µg/L)								
Trichloroethene	<b>160</b>	<b>120</b>	1.0 U	<b>1.7</b>	1.0 U	1.0 U	<b>23</b>	5.0

EPA Sample ID	07100522	Action Levels
Station Location	Rinsate Blank	
Description	Rinsate Blank	
VOCs (µg/L)		
Trichloroethene	1.0 U	5.0

Note: Bold type indicates the sample result is above the detection limit.

Shaded results are greater than the listed action levels.

EPA = United States Environmental Protection Agency.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07100541	07100542	07100543	07100544	07100545	07100546	07100547	Action Levels
Station Location	GM-22	GM-23	GM-24	GM-25	GM-26	GM-27	GM-28	
Description	In Soil Near (b) (6)	In Soil Near	In Soil Near	In Soil Near	In Soil Near	In Soil Near	In Soil Near	
VOCs (µg)								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

<b>EPA Sample ID</b>	<b>07100548</b>	<b>07100549</b>	<b>07100550</b>	<b>07100551</b>	<b>07100552</b>	<b>07100553</b>	<b>07100554</b>	<b>Action Levels</b>
<b>Station Location</b>	<b>GM-29</b>	<b>GM-30</b>	<b>GM-31</b>	<b>GM-32</b>	<b>GM-33</b>	<b>GM-34</b>	<b>GM-35</b>	
<b>Description</b>	<b>In Soil</b>	<b>In Soil</b>	<b>In Soil</b>	<b>In Soil</b>	<b>In Soil</b>	<b>In Soil</b>	<b>In Soil</b>	
	(b) (6)		<b>Near Wood Road</b>	<b>Near Wood Road</b>	<b>Near Wood Road</b>	<b>Near Wood Road</b>	<b>Near Wood Road</b>	
<b>VOCs (µg)</b>								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV



Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

<b>EPA Sample ID</b>	<b>07100555</b>	<b>07100556</b>	<b>07100557</b>	<b>07100558</b>	<b>07100559</b>	<b>07100560</b>	<b>07100561</b>	<b>Action Levels</b>
<b>Station Location</b>	<b>GM-36</b>	<b>GM-37</b>	<b>GM-38</b>	<b>GM-39</b>	<b>GM-40</b>	<b>GM-41</b>	<b>GM-42</b>	
<b>Description</b>	<b>In Soil Near Wood Road</b>	<b>In Soil Near Wood Road</b>	<b>In Soil Near Wood Road</b>	<b>In Soil Near Wood Road</b>	<b>In Soil Near Wood Road</b>	<b>In Soil Near Wood Road</b>	<b>In Soil Near Wood Road</b>	
<b>VOCs (µg)</b>								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

EPA Sample ID	07100562	07100563	07100564	07100565	07100566	07100567	07100568	Action Levels
Station Location	GM-43	GM-44	GM-45	GM-46	GM-47	GM-48	GM-49	
Description	In Soil Near Wood Road	In Soil Near Wood Road	In Soil Near Wood Road	In Soil Near Wood Road	In Soil Near Cow Pen	In Soil Near Cow Pen	In Soil Near Cow Pen	
VOCs (µg)								
Chlorobenzene	0.03	0.01 U	0.01 U	NR	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	NR	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	NR	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	NR	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	NR	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	NR	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	NR	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	NR	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	NR	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.03	0.01 U	0.01 U	NR	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	NR	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	NR	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	NR	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	NR	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	NR	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01	0.01 U	0.01 U	NR	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	NR	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.02	0.01 U	0.01 U	NR	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	NR	0.05 U	0.05 U	0.05 U	NV

Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

<b>EPA Sample ID</b>	<b>07100569</b>	<b>07100570</b>	<b>07100571</b>	<b>07100572</b>	<b>07111001</b>	<b>07111002</b>	<b>07111003</b>	<b>Action Levels</b>
<b>Station Location</b>	<b>GM-50</b>	<b>GM-51</b>	<b>GM-52</b>	<b>GM-53</b>	<b>GM-54</b>	<b>GM-55</b>	<b>GM-56</b>	
<b>Description</b>	<b>In Soil Near Cow Pen</b>	<b>In Soil Near Garden</b>	<b>In Soil Near Garden</b>	<b>In Soil Near Garden</b>	<b>MW01</b>	<b>MW01</b>	<b>MW01</b>	
<b>VOCs (µg)</b>								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

<b>EPA Sample ID</b>	<b>07111004</b>	<b>07111005</b>	<b>07111006</b>	<b>07111007</b>	<b>07111008</b>	<b>07111009</b>	<b>07111010</b>	<b>Action Levels</b>
<b>Station Location</b>	<b>GM-57</b>	<b>GM-58</b>	<b>GM-59</b>	<b>GM-60</b>	<b>GM-61</b>	<b>GM-62</b>	<b>GM-63</b>	
<b>Description</b>	<b>MW02</b>	<b>MW02</b>	<b>MW02</b>	<b>MW03</b>	<b>MW03</b>	<b>MW03</b>	<b>MW04</b>	
<b>VOCs (µg)</b>								
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	<b>0.02</b>	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

Table 3-13

**OCTOBER 2007 GORETM MODULE SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

<b>EPA Sample ID</b>	<b>07111011</b>	<b>07111012</b>	<b>07111013</b>	<b>07111014</b>	<b>07111015</b>	<b>07111016</b>	<b>Action Levels</b>
<b>Station Location</b>	<b>GM-64</b>	<b>GM-65</b>	<b>GM-66</b>	<b>GM-67</b>	<b>GM-68</b>	<b>GM-69</b>	
<b>Description</b>	<b>MW04</b>	<b>MW04</b>	<b>Field Blank</b>	<b>Field Blank</b>	<b>Field Blank</b>	<b>Field Blank</b>	
<b>VOCs (µg)</b>							
Chlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
cis- & trans-1,2-Dichloroethene	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NV
trans-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
cis-1,2-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1-Trichloroethane	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,2-Dichloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Trichloroethene	<b>0.01</b>	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Tetrachloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
1,4-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
Vinyl chloride	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	NV
1,1-Dichloroethene	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NV
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
Carbon tetrachloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,1,1,2-Tetrachloroethane	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV
1,3-Dichlorobenzene	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NV
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NV

### Table 3-13 Key

Notes: Bold type indicates the sample result is above the detection limit.

Monitoring well samples were collected in the headspace at each location.

All samples collected from soil gas were collected from 0 - 6 inches below ground surface.

Key:

EPA = United States Environmental Protection Agency.

GM = Gore<sup>TM</sup> Module.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration

is below the sample quantitation limit or because quality control criteria were not met.

MW = Monitoring well.

µg = Micrograms.

na = Not analyzed.

NR = Not retrieved.

NV = No value.

U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.

Table 3-14

**JUNE 2009 COMMERCIAL LABORATORY GROUNDWATER AND AIR SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

GROUNDWATER SAMPLE RESULTS								
EPA Sample ID	09060001	09060002	09060003	09060004	09060005	09060006	09060007	Action Levels (Water)
Station Location	Hutterian Brethren	(b) (6)	Hutterian Brethren	(b) (6)	Hutterian Brethren	Hutterian Brethren	(b) (6)	
Description	MW01	MW02	MW03	MW04	MW05	MW06	MW07	
VOCs (µg/L)								
Trichloroethene	1.3	130	240	150	0.20 U	1.2	0.20 U	5.0

EPA Sample ID	09060008	09060009	09060010	09060011	09060012	09060013	09060014	Action Levels (Water)
Station Location	(b) (6)							
Description		Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	Treatment System Pre-Treatment	Treatment System Mid-Treatment	Treatment System Post-Treatment	
	MW08							
VOCs (µg/L)								
Trichloroethene	0.20 U	69	0.20 U	0.20 U	60	0.20 U	0.20 U	5.0

EPA Sample ID	09060015	09060016	09060017	09060018	09060027	09060028	09060029	Action Levels (Water)
	(b) (6)					(b) (6)		
Station Location				Trip Blank 13	Rinsate Blank			
		Treatment System Mid-Treatment	Treatment System Pre-Treatment			Outside Spigot (Domestic Well)	Outside Spigot (Domestic Well)	
Description	Treatment System Post-Treatment			Trip Blank	Rinsate Blank			
VOCs (µg/L)								
Trichloroethene	0.20 U	0.20 U	22	0.20 U	0.20 U	0.20 U	0.20 U	5.0

Key is found on the next page.

Table 3-14

**JUNE 2009 COMMERCIAL LABORATORY GROUNDWATER AND AIR SAMPLE ANALYTICAL RESULTS SUMMARY  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

AIR SAMPLE RESULTS							
EPA Sample ID	09060019	09060022	09060023	09060024	09060025	09060026	Action Levels (Air)
Station Location	(b) (6)						
Description	Background Outdoor Air	Downstairs Indoor Air	Upstairs Indoor Air	Upstairs Indoor Air	Downstairs Indoor Air	Background Outdoor Air	
VOCs (µg/L)							
Trichloroethene	0.052	0.16	0.065	0.52	0.52	0.063	0.1

Note: Bold type indicates the sample result is above the detection limit.

Key:

Shaded results are greater than the listed action levels.

ID = Identification.

J = The analyte was positively identified. The result is estimated because the concentration

is below the sample quantitation limit or because quality control criteria were not met.

µg/L = Micrograms per liter.

MW = Monitoring well.

na = Not analyzed.

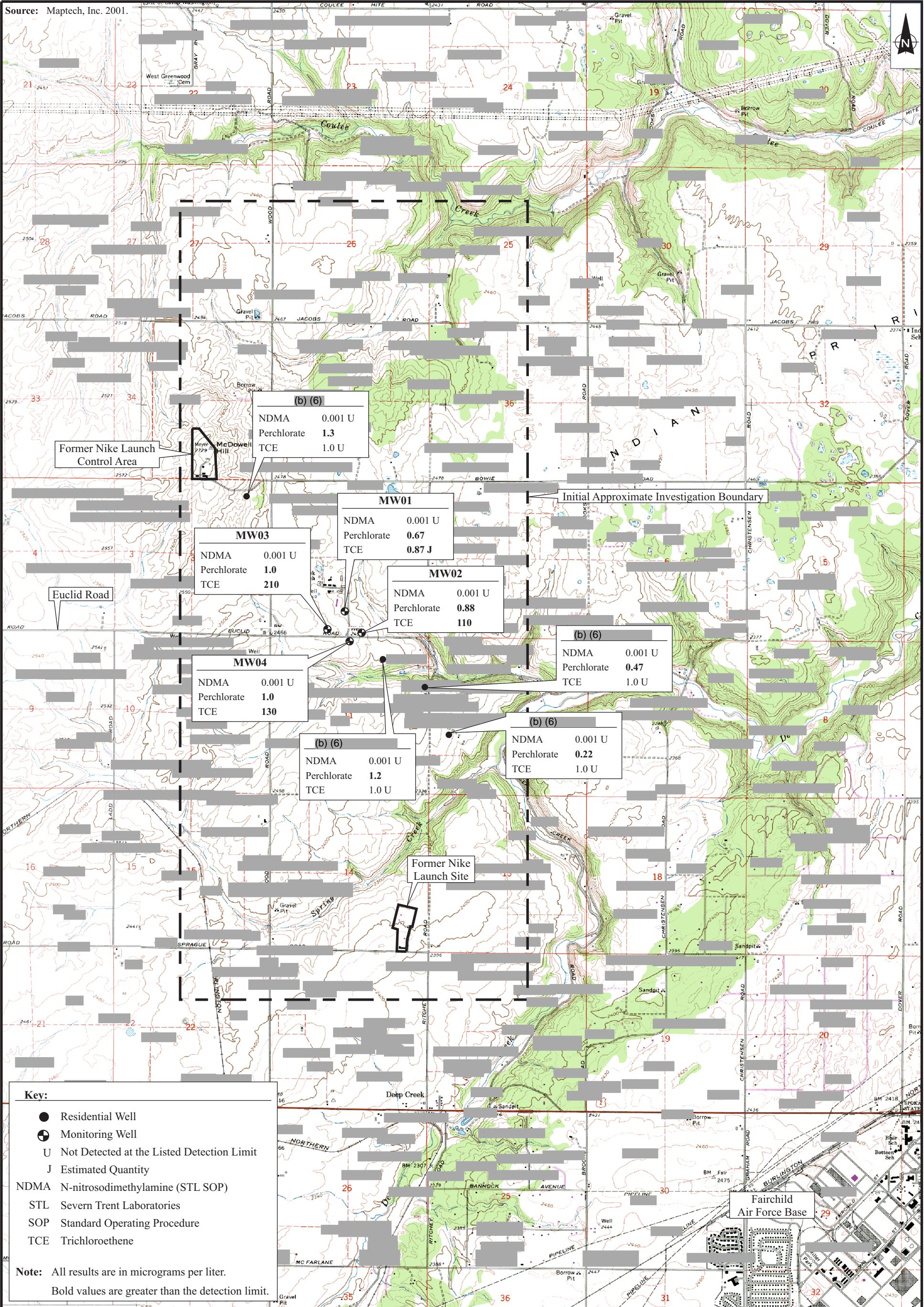
U = The analyte was not detected at or above the listed detection limit.

VOCs = Volatile organic compounds.



Note: This page intentionally left blank.







**Source:** Maptech, Inc. 2001.

**Key:**

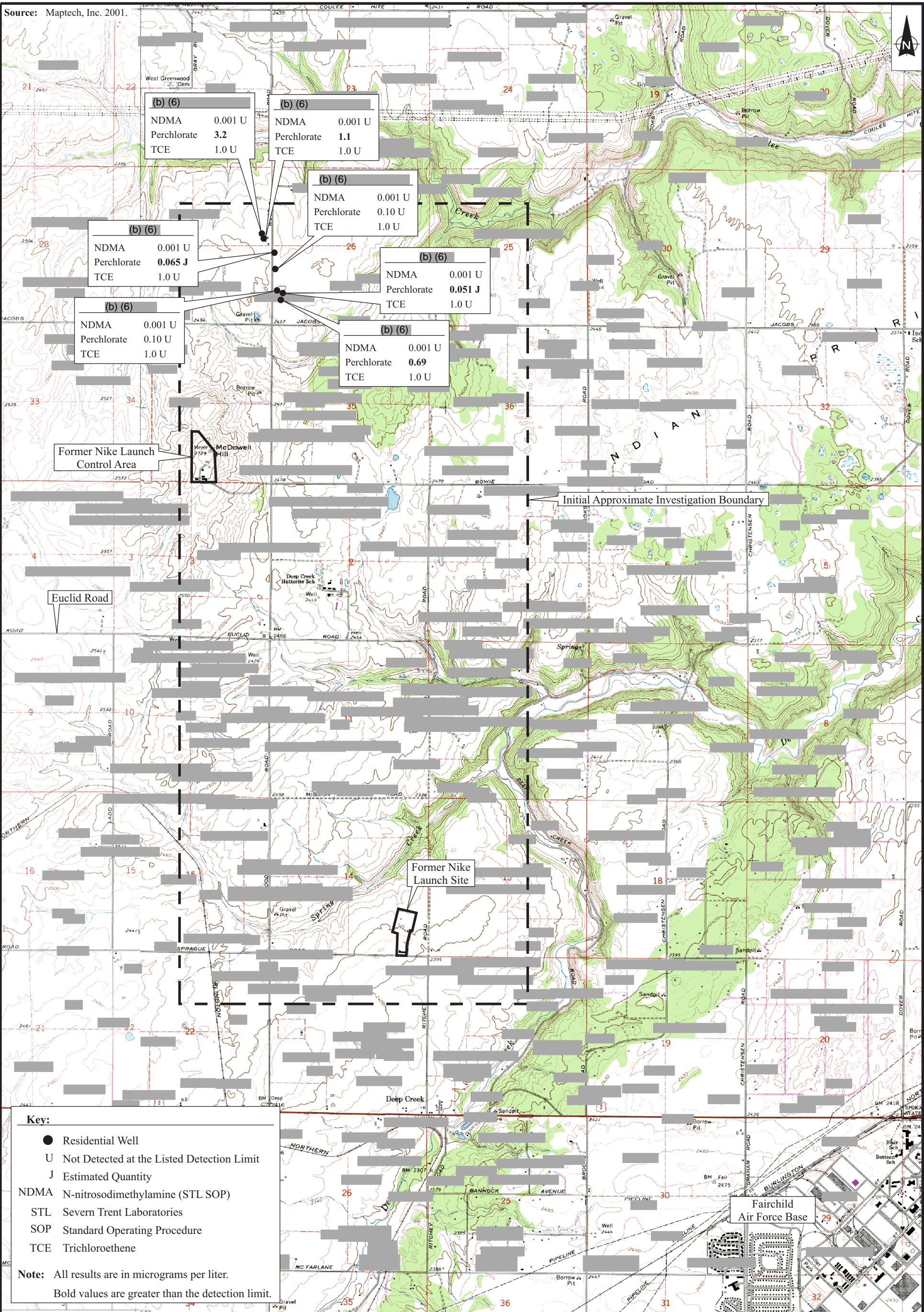
- Residential Well
- NA Not Analyzed
- U Not Detected at the Listed Detection Limit
- J Estimated Quantity
- NDMA N-nitrosodimethylamine (STL SOP)
- STL Severn Trent Laboratories
- SOP Standard Operating Procedure
- TCE Trichloroethene

**Note:** All results are in micrograms per liter.  
Bold values are greater than the detection limit.

Location / Feature	NDMA	Perchlorate	TCE
(b) (6)	0.0026	0.91	1.0 U
(b) (6)	0.001 U	1.1	1.0 U
(b) (6)	0.001 U	0.0078 J	1.0 U
Hutterian Brethren	0.001 U	0.037	NA
(b) (6)	0.00069 J	0.82	120
(b) (6)	0.001 U	1.1	0.24 J
(b) (6)	0.001 U	0.89	NA
(b) (6)	0.001 U	1.5	NA
(b) (6)	0.001 U	0.24	NA
(b) (6)	0.001 U	0.48	NA
(b) (6)	0.001 U	0.093	NA
(b) (6)	0.001 U	0.015	NA
(b) (6)	0.001 U	0.97	NA
(b) (6)	0.001 U	1.7	NA
(b) (6)	0.001 U	0.22	NA
(b) (6)	0.0005 J	1.1	NA
(b) (6)	0.0011	0.44	NA
(b) (6)	0.001 U	0.97	NA



Source: Maptech, Inc. 2001.



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Seattle, Washington

EUCLID ROAD TCE MONITORING SITE  
Reardan, Washington

0 1538 3076  
Approximate Scale in Feet

Figure 3-3  
MAY 2006 SAMPLE RESULTS MAP

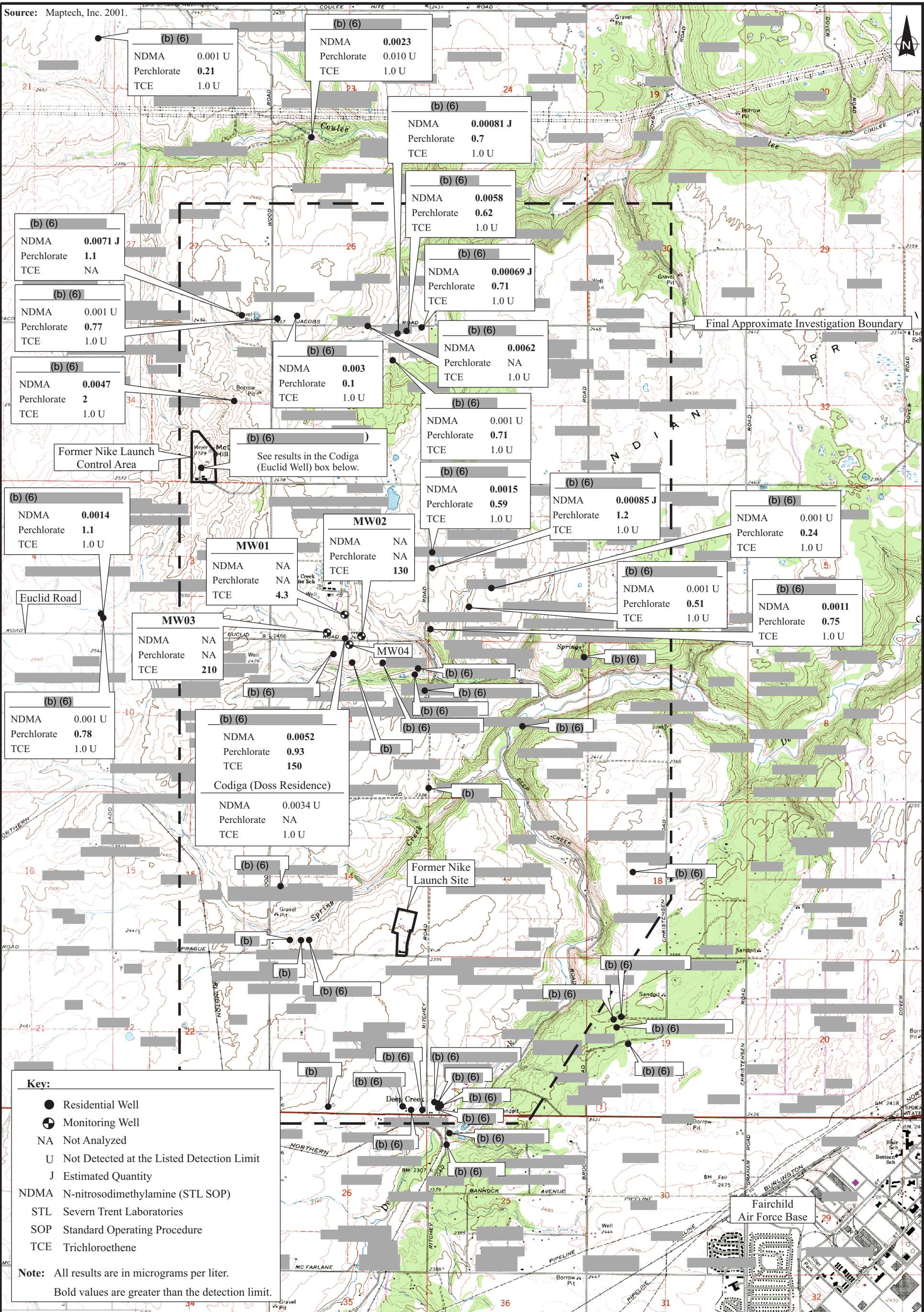
Date:  
1/5/09

Drawn by:  
AES

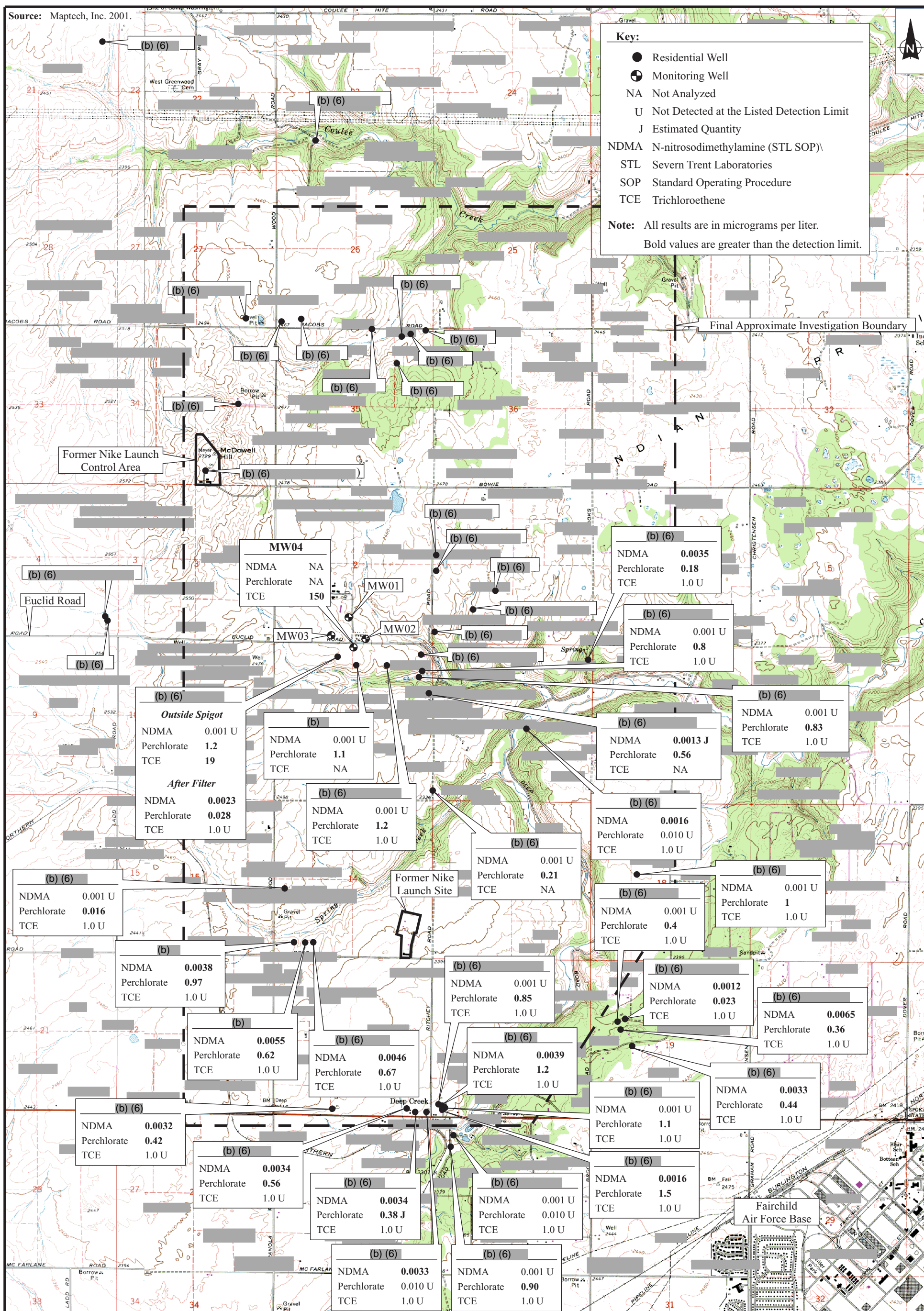
10:START-3\06090002\fig 3-3



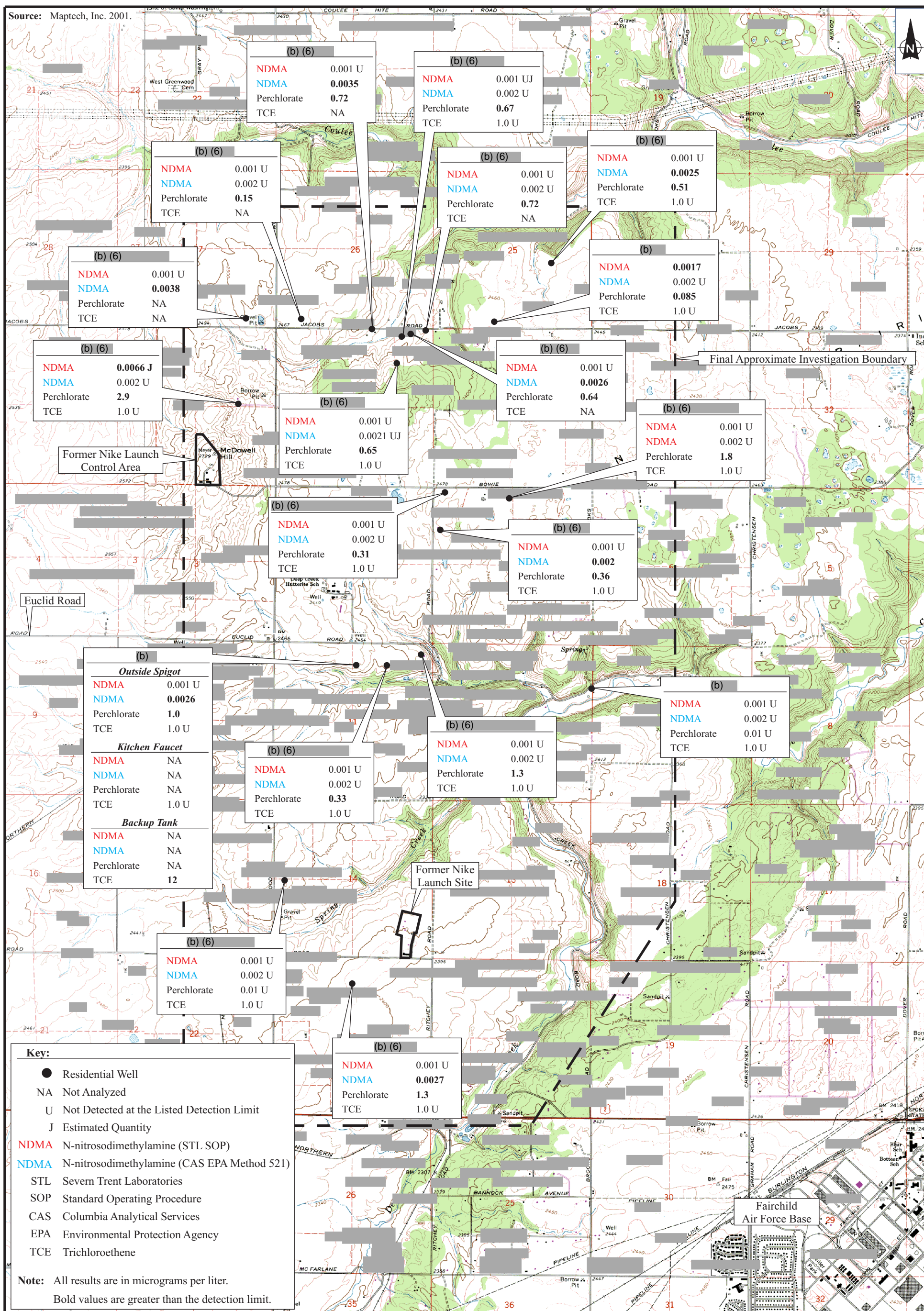
Source: Maptech, Inc. 2001.





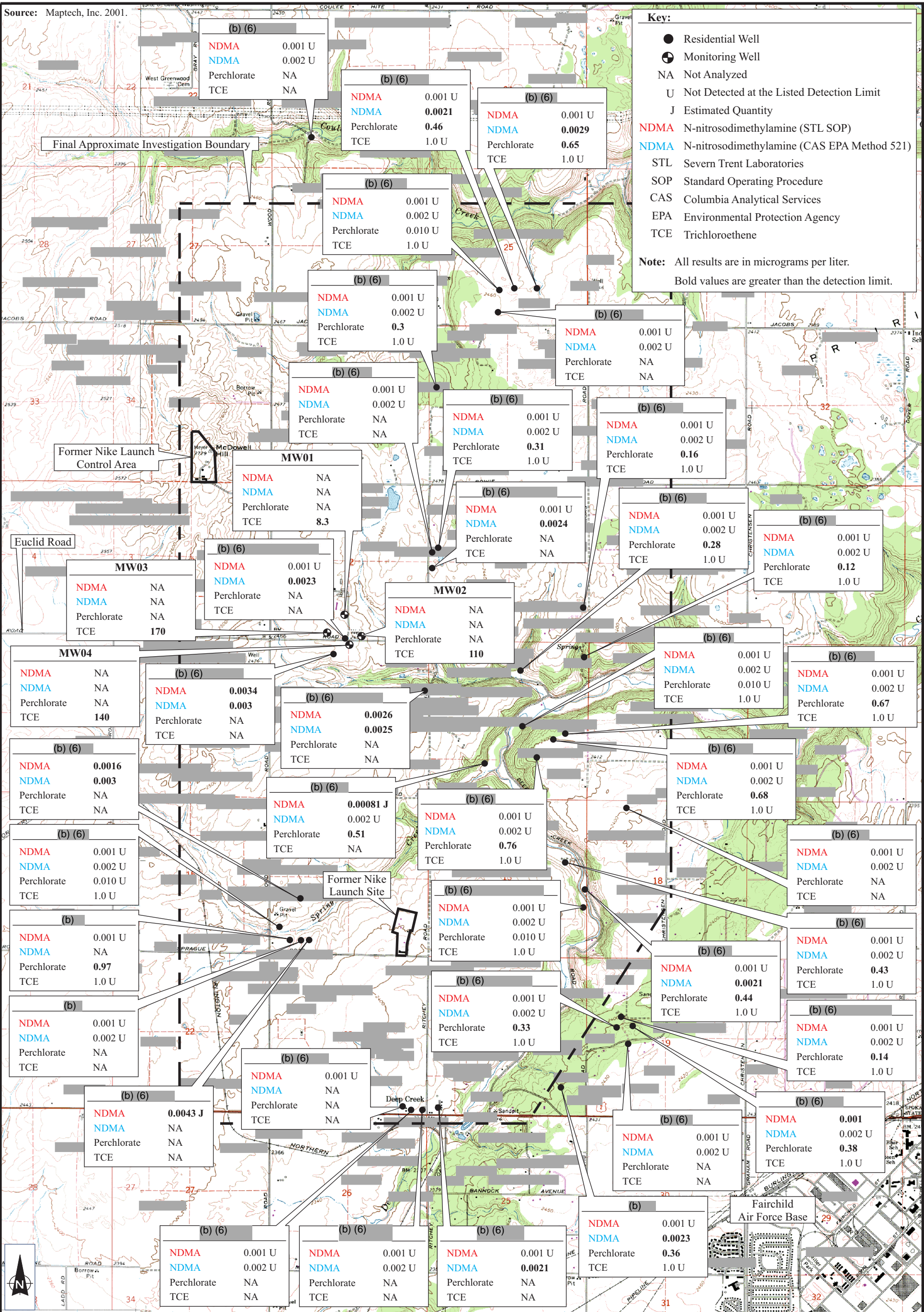








Source: Maptech, Inc. 2001.



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Reardan, Washington

0 1538 3076  
Approximate Scale in Feet

Figure 3-7  
SEPTEMBER 2006 SAMPLE RESULTS MAP

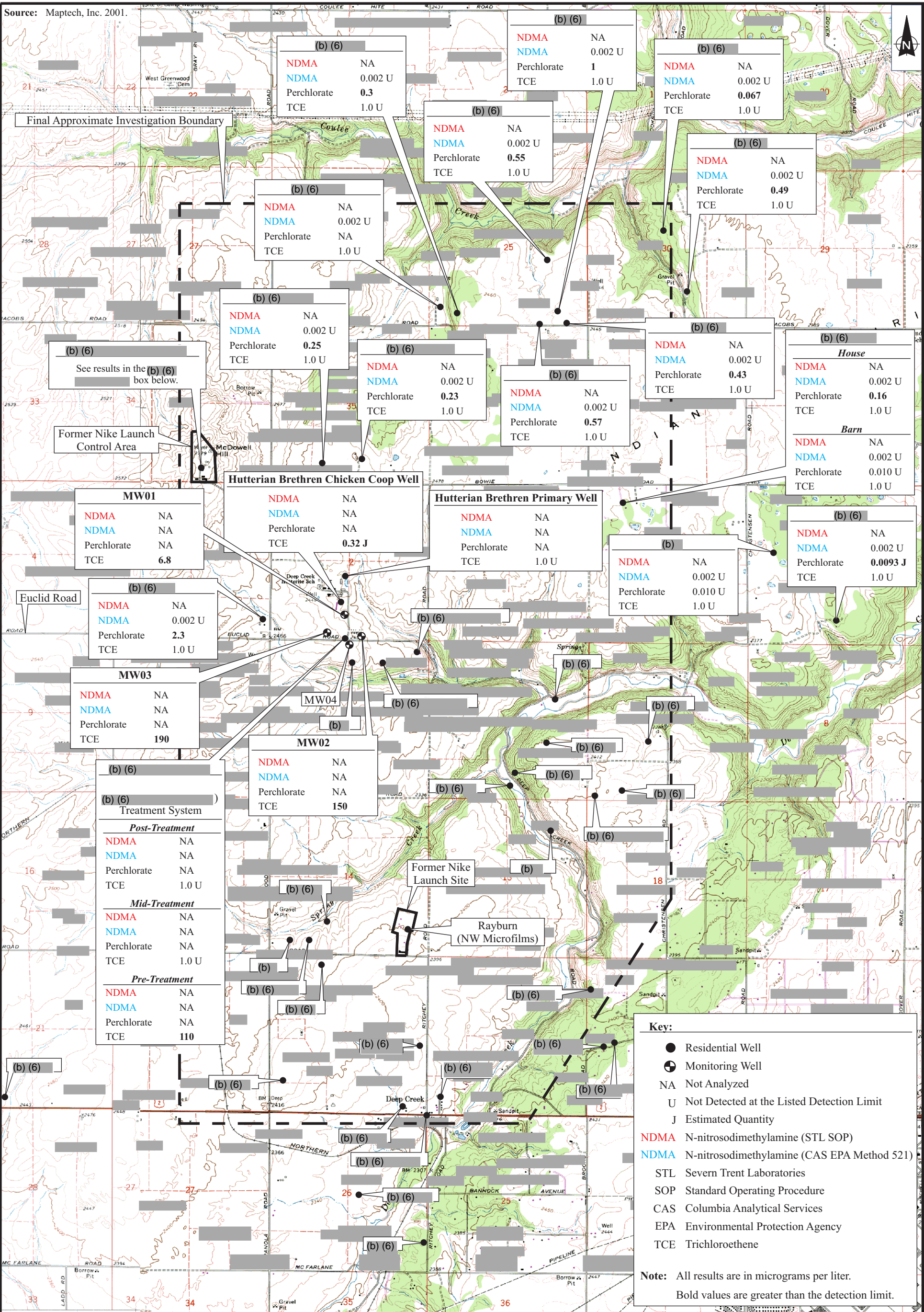
Date:  
1/5/09

Drawn by:  
AES

10:START-3\06090002\fig 3-7



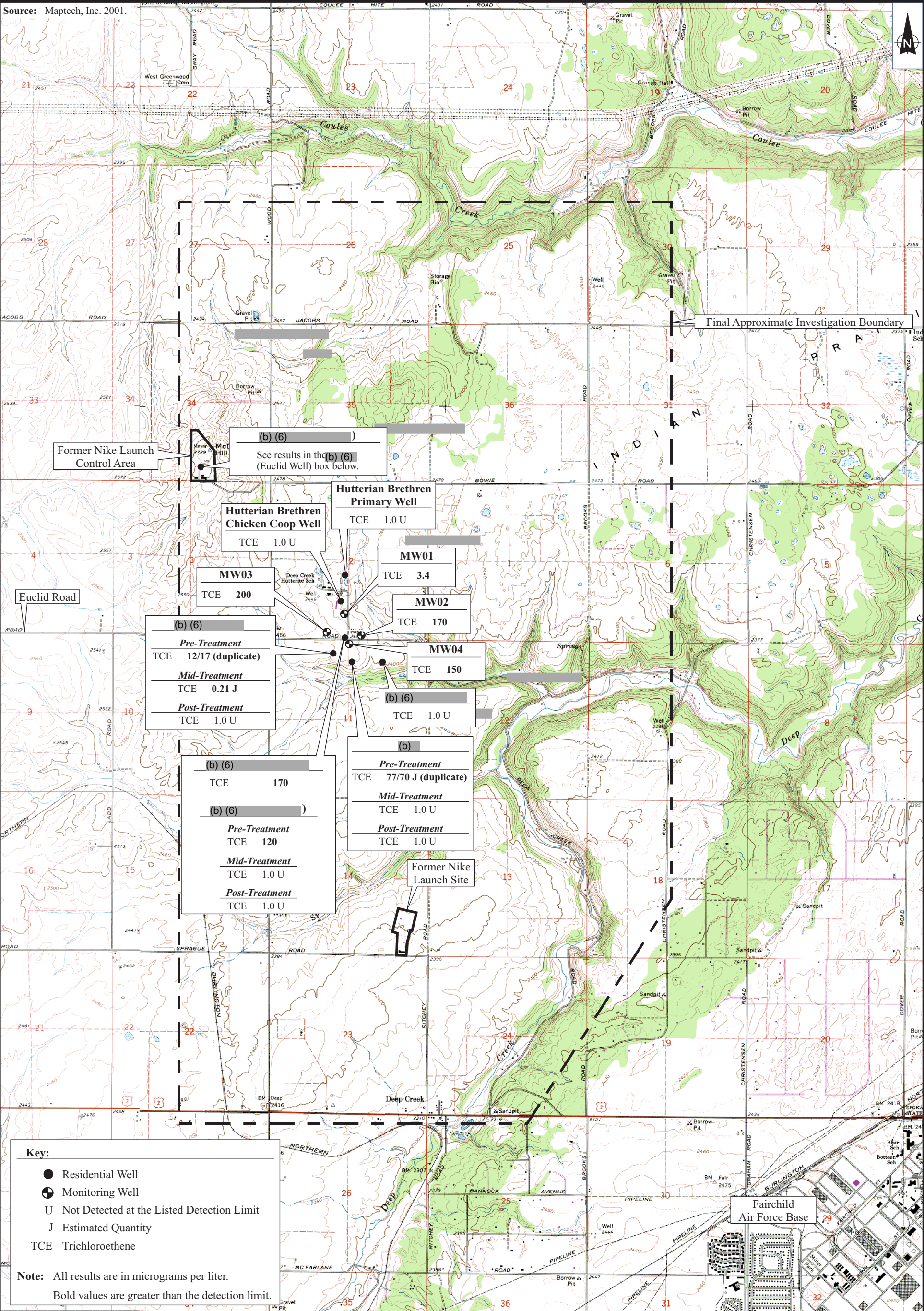
Source: Maptech, Inc. 2001.





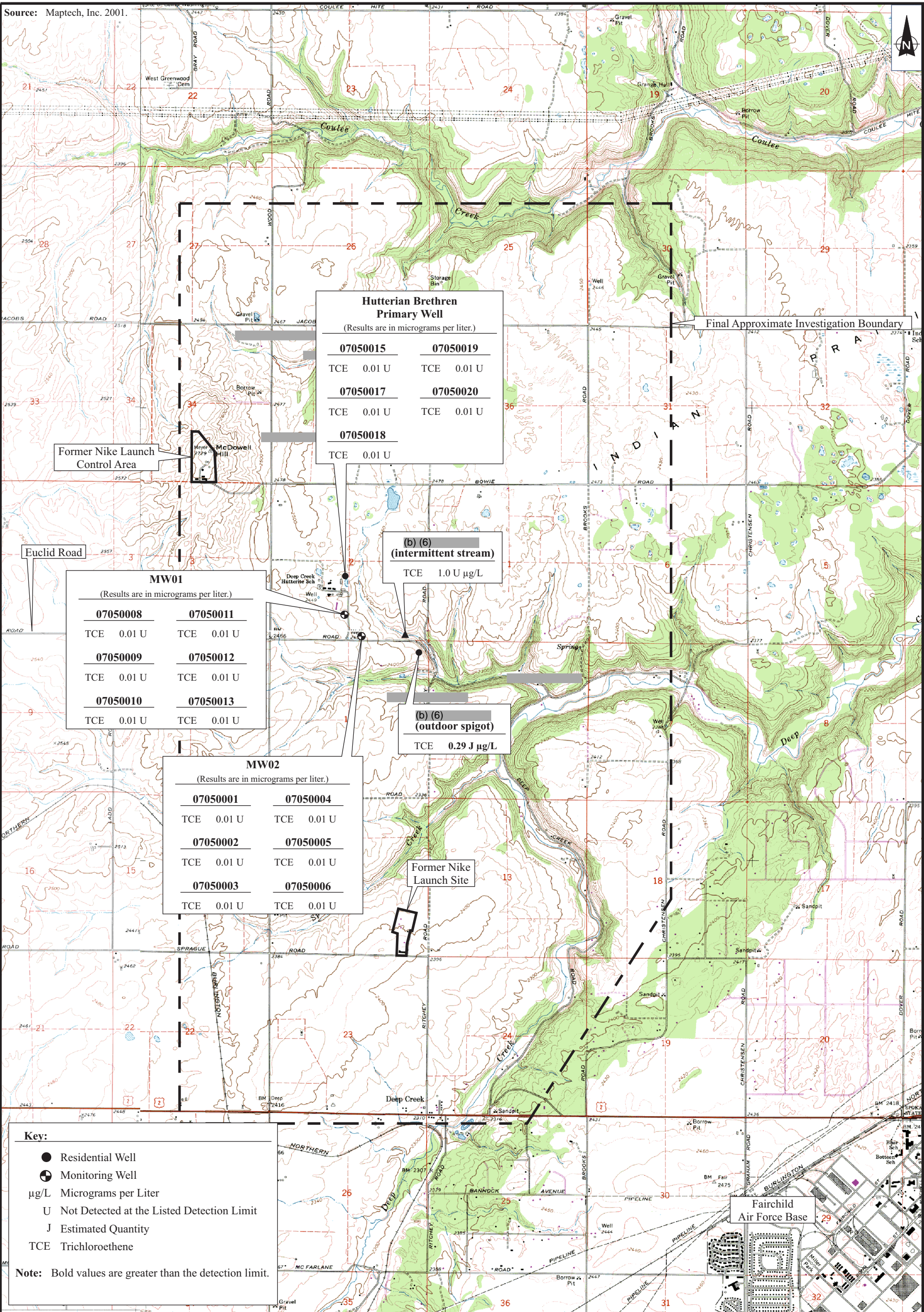
[illegible]







Source: Maptech, Inc. 2001.





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Reardan, Washington

015383076

Approximate Scale in Feet

Figure 3-11  
MAY 2007 SAMPLE RESULTS MAP

Date:  
11/2/09

Drawn by:  
AES



10:START-3\06090002\fig 3-11











[illegible]



 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-13 JUNE 2007 SAMPLE RESULTS MAP (Central Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-13







[illegible][illegible]



 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-14 JUNE 2007 SAMPLE RESULTS MAP (Southern Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-14

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-14 JUNE 2007 SAMPLE RESULTS MAP (Southern Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-14

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-14 JUNE 2007 SAMPLE RESULTS MAP (Southern Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-14

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-14 JUNE 2007 SAMPLE RESULTS MAP (Southern Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-14

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-14 JUNE 2007 SAMPLE RESULTS MAP (Southern Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-14

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD TCE MONITORING SITE Reardan, Washington	Figure 3-14 JUNE 2007 SAMPLE RESULTS MAP (Southern Euclid Road Site)		
	 Approximate Scale in Feet	Date: 1/5/09	Drawn by: AES	10:START-3\06090002\fig 3-14



[illegible]

● Residential Well  
 ◐ Monitoring Well  
 U Not Detected at the Listed Detection Limit  
 TCE Trichloroethene

**Note:** All results are in micrograms per liter.  
Bold values are greater than the detection limit.

0 1538 3076  
Approximate Scale in Feet

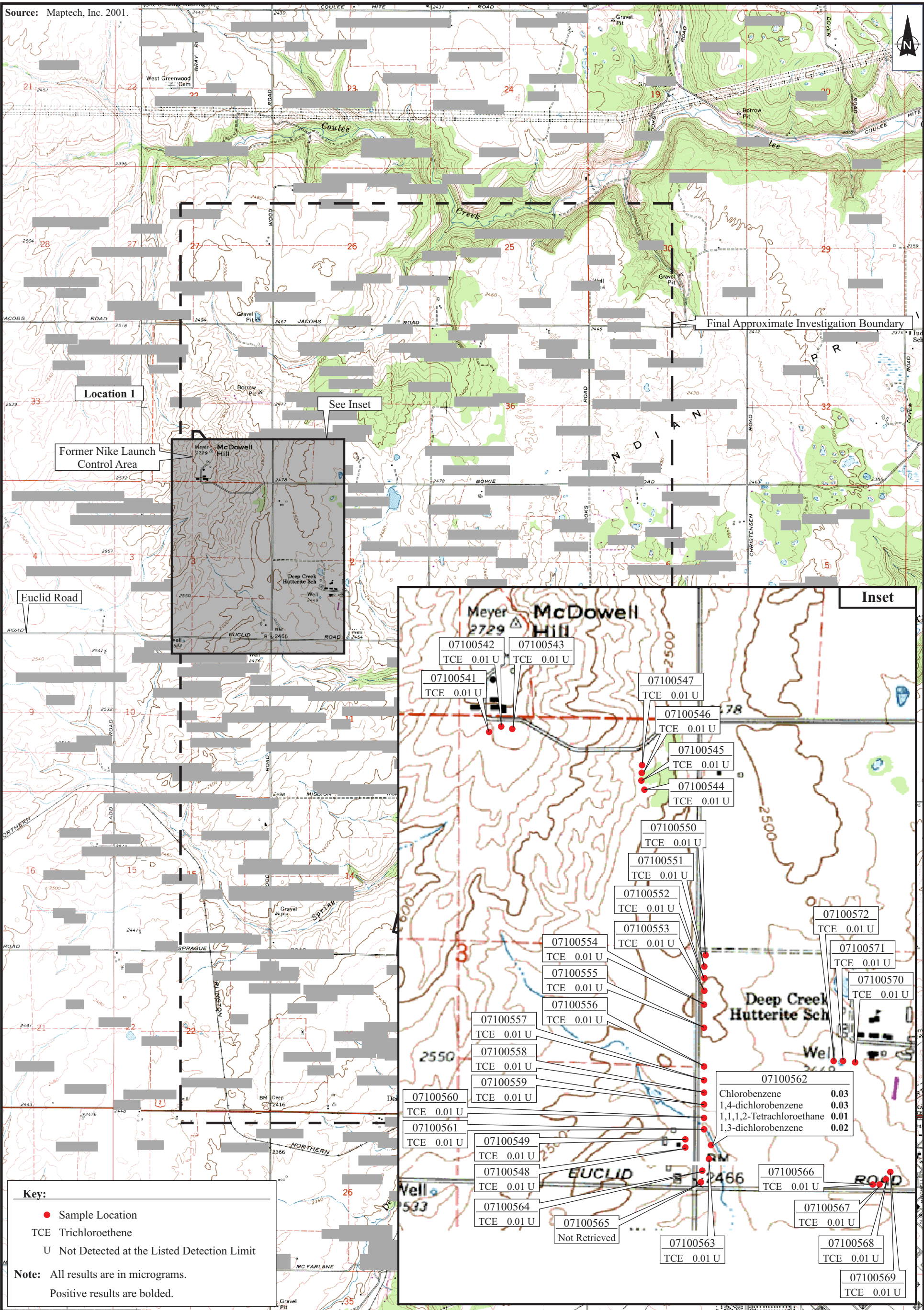
Date:  
11/13/09

Drawn by:  
AES

10:START-3\06090002\fig 3-15

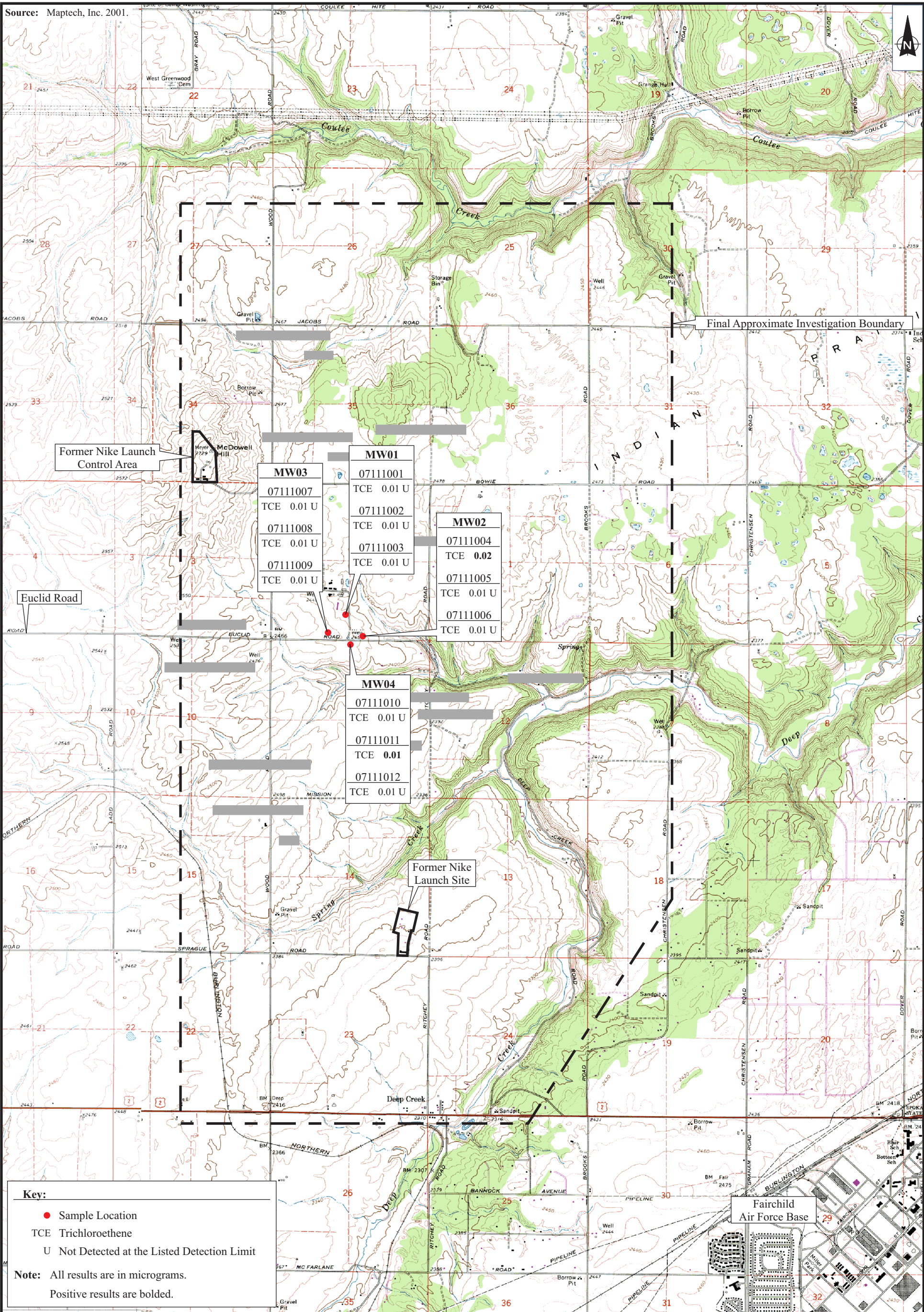


Source: Maptech, Inc. 2001.





Source: Maptech, Inc. 2001.





Source: Maptech, Inc. 2001.

Final Approximate Investigation Boundary

Former Nike Launch Control Area

Euclid Road

Deep Creek

Former Nike Launch Site

Fairchild Air Force Base

Key:

- Residential Well
- ⊕ Monitoring Well
- U Not Detected at the Listed Detection Limit
- TCE Trichloroethene

Note: Orange highlighted results are in micrograms per cubic meter. All other results are in micrograms per liter. Bold values are greater than the detection limit.

Well	Pre-Treatment	Mid-Treatment	Post-Treatment	Upstairs Indoor Air	Downstairs Indoor Air	Background Outdoor Air
MW01	TCE 22	TCE 0.2 U	TCE 0.2 U	0.065	0.16	0.052
MW03	TCE 240	TCE 1.2	TCE 0.2 U	0.52	0.52	0.063
MW05	TCE 0.2 U	TCE 0.2 U	TCE 0.2 U	0.52	0.52	0.063
MW07	TCE 0.2 U	TCE 0.2 U	TCE 0.2 U	0.52	0.52	0.063
MW08	TCE 0.2 U	TCE 0.2 U	TCE 0.2 U	0.52	0.52	0.063

● Residential Well  
 ● Monitoring Well  
 U Not Detected at the Listed Detection Limit  
 TCE Trichloroethene

**Note:** Orange highlighted results are in micrograms per cubic meter. All other results are in micrograms per liter.

Bold values are greater than the detection limit.

0 1538 3076  
Approximate Scale in Feet

Date: 7/20/09	Drawn by: AES	10:START-3\06090002\fig 3-18
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## 4

## Summary and Conclusions

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The START was tasked by the EPA to conduct an RA at the ERGW site in conjunction with work at the ERTM site; this RA report primarily discusses the work conducted for the ERGW investigation but discusses ERTM work when applicable. The initial objective of the RA was to monitor the TCE concentrations in domestic and monitoring wells in the Euclid Road area of Reardan, Washington, with secondary goals to determine if NDMA and/or perchlorate contamination were present in these wells. START conducted fourteen rounds of RA field activities between March 2006 and June 2009. After the results from each month between March and December, 2006 were received, the OSC expanded the sample collection effort to include additional domestic wells inside the approximate investigation boundary not previously sampled and to conduct follow-up sampling at some previously sampled locations to determine if any concentration fluctuations had occurred. In general, individual sample results were consistent with results from the same locations throughout the project. After December 2006, sampling was primarily conducted at locations that had previously been sampled. A total of 478 field samples (including QA, whole air, and soil gas samples) involving 978 separate analyses were collected from 128 different properties, including 128 domestic supply wells, one chicken coop well, three residential water treatment systems, two residences, two backup domestic water supply sources, one hospital background well, one domestic irrigation well, one intermittent stream, eight monitoring wells, and 64 soil gas samples and were analyzed for NDMA, perchlorate, and/or TCE. NDMA was detected in 44 domestic wells and in the domestic irrigation well at concentrations between 0.000069 and 0.0071 µg/L. Perchlorate was detected in 112 domestic wells, in the domestic irrigation well, and in four monitoring wells at concentrations between 0.0078 and 3.2 µg/L. TCE was detected in four domestic wells, in the backup domestic water supply source, and in five monitoring wells at concentrations between 0.24 and 240 µg/L. TCE was detected in whole air samples at the (b) (6) and (b) (6) residences at concentrations exceeding the Washington MTCA Method B limits for residential air of 0.1 µg/m<sup>3</sup>.

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## **Photographic Documentation**





## PHOTOGRAPH IDENTIFICATION SHEET

**Camera Serial Number:** Personal Digital

**TDD Number:** 06-09-0002

**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
1-1	March 28, 2006	0945	MW	South	(b) (6)
1-2	March 28, 2006	0950	MW	East	
1-3	March 28, 2006	1010	MW	East	
1-4	March 28, 2006	1012	MW	East	
1-5	March 28, 2006	1040	MW	East	
1-6	March 28, 2006	1040	MW	East	
1-7	March 28, 2006	1110	MW	North	
1-8	March 28, 2006	1110	MW	North	
1-9	March 28, 2006	1230	MW	East	MW01 sample location.
1-10	March 28, 2006	1415	MW	East	MW02 sample location.
1-11	March 28, 2006	1445	MW	East	MW03 sample location.
1-12	March 28, 2006	1515	MW	North	MW04 sample location.
2-1	April 15, 2006	1030	MW	North	Sample collection inside Hutterite building.
2-2	April 15, 2006	1035	MW	North	Outside of Hutterite building.
2-3	April 15, 2006	1045	MW	Northeast	(b) (6)
2-4	April 15, 2006	1050	MW	Northeast	
2-5	April 15, 2006	1105	MW	South	
2-6	April 15, 2006	1105	MW	North	
2-7	April 15, 2006	1115	MW	South	
2-8	April 15, 2006	1115	MW	South	
2-9	April 15, 2006	1220	MW	North	
2-10	April 15, 2006	1235	MW	South	
2-11	April 15, 2006	1250	MW	North	
2-12	April 15, 2006	1320	MW	East	
2-13	April 15, 2006	1335	MW	East	
2-14	April 15, 2006	1550	MW	South	
2-15	April 15, 2006	1600	MW	North	
2-16	April 15, 2006	1620	MW	West	
2-17	April 15, 2006	1630	MW	North	
2-18	April 15, 2006	1650	MW	North	
2-19	April 15, 2006	1710	MW	North	
3-1	May 26, 2006	0900	MW	East	
3-2	May 26, 2006	0900	MW	East	
3-3	May 26, 2006	0915	MW	South	
3-4	May 26, 2006	0940	MW	North	
3-5	May 26, 2006	1010	MW	North	
3-6	May 26, 2006	1025	MW	South	
3-7	May 26, 2006	1050	MW	Northwest	
3-8	May 26, 2006	1110	MW	Southeast	
4-1	June 22, 2006	1040	MW	South	MW01 sample location.
4-2	June 22, 2006	1125	MW	North	MW02 sample location.
4-3	June 22, 2006	1245	MW	North	MW04 sample location.
4-4	June 22, 2006	1330	MW	East	(b) (6)
4-5	June 22, 2006	1345	MW	East	
4-6	June 22, 2006	1520	MW	South	MW03 sample location.

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**Camera Serial Number:** Personal Digital

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**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
4-7	June 22, 2006	2105	MW	West	(b) (6)
4-8	June 22, 2006	2120	MW	East	
4-9	June 22, 2006	2130	MW	Southeast	
4-10	June 23, 2006	0725	MW	Southeast	
4-11	June 23, 2006	0730	MW	Southeast	
4-12	June 23, 2006	0820	MW	South	
4-13	June 23, 2006	0830	MW	Northeast	
4-14	June 23, 2006	0900	MW	South	
4-15	June 23, 2006	0920	MW	East	
4-16	June 23, 2006	0955	MW	West	
4-17	June 23, 2006	1005	MW	North	
4-18	June 23, 2006	1045	MW	West	
4-19	June 23, 2006	1115	MW	East	
4-20	June 23, 2006	1250	MW	Southeast	
4-21	June 23, 2006	1305	MW	Northwest	
4-22	June 23, 2006	1305	MW	South	
4-23	June 23, 2006	1345	MW	South	
4-24	June 23, 2006	1420	MW	Southwest	
4-25	June 23, 2006	1425	MW	Northeast	
4-26	June 23, 2006	1430	MW	Northeast	
5-1	June 25, 2006	1915	MW	East	
5-2	June 25, 2006	1915	MW	Down	
5-3	June 25, 2006	1925	MW	Southeast	
5-4	June 25, 2006	1950	MW	Southeast	
5-5	June 25, 2006	2020	MW	South	
5-6	June 25, 2006	2040	MW	Southwest	
5-7	June 25, 2006	2050	MW	Southwest	
5-8	June 26, 2006	0710	MW	North	
5-9	June 26, 2006	0810	MW	South	
5-10	June 26, 2006	0845	MW	South	
5-11	June 26, 2006	0915	MW	West	
5-12	June 26, 2006	0925	MW	West	
5-13	June 26, 2006	0935	MW	East	
5-14	June 26, 2006	1015	MW	South	
5-15	June 26, 2006	1025	MW	North	
5-16	June 26, 2006	1040	MW	West	
5-17	June 26, 2006	1205	MW	East	
5-18	June 26, 2006	1230	MW	South	
5-19	June 26, 2006	1240	MW	East	
5-20	June 26, 2006	1300	MW	East	
5-21	June 26, 2006	1305	MW	Northwest	
5-22	June 26, 2006	1340	MW	South	
5-23	June 26, 2006	1400	MW	Down	
5-24	June 26, 2006	1420	MW	West	
5-25	June 26, 2006	1450	MW	North	
5-26	June 26, 2006	1500	MW	West	
5-27	June 26, 2006	1520	MW	North	

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**Camera Serial Number:** Personal Digital

**TDD Number:** 06-09-0002

**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
5-28	June 26, 2006	1545	MW	South	(b) (6)
5-29	June 26, 2006	1610	MW	South	
5-30	June 26, 2006	1615	MW	West	
6-1	August 22, 2006	0855	MW	South	
6-2	August 22, 2006	0910	MW	South	
6-3	August 22, 2006	0930	MW	West	
6-4	August 22, 2006	0955	MW	North	
6-5	August 22, 2006	1005	MW	West	
6-6	August 22, 2006	1017	MW	South	
6-7	August 22, 2006	1032	MW	West	
6-8	August 22, 2006	1120	MW	North	
6-9	August 22, 2006	1130	MW	North	
6-10	August 22, 2006	1200	MW	South	
6-11	August 22, 2006	1220	MW	South	
6-12	August 22, 2006	1240	MW	West	
6-13	August 22, 2006	1300	MW	West	
6-14	August 22, 2006	1345	MW	North	
6-15	August 22, 2006	1405	MW	Southwest	
6-16	August 22, 2006	1415	MW	Southeast	
6-17	August 22, 2006	1430	MW	Southeast	
6-18	August 22, 2006	1505	MW	West	
6-19	August 22, 2006	1530	MW	Northeast	
6-20	August 22, 2006	1545	MW	South	
7-1	September 14, 2006	1000	MW	North	MW01 sample location.
7-2	September 14, 2006	1100	MW	Northwest	MW02 sample location.
7-3	September 14, 2006	1200	MW	Northwest	MW03 sample location.
7-4	September 14, 2006	1300	MW	North	MW04 sample location.
7-5	September 14, 2006	1400	MW	South	(b) (6)
7-6	September 14, 2006	1420	MW	North	
7-7	September 14, 2006	1440	MW	Northwest	
7-8	September 14, 2006	1500	MW	Southeast	
7-9	September 14, 2006	1520	MW	Southeast	
7-10	September 14, 2006	1540	MW	Southeast	
7-11	September 14, 2006	1600	MW	East	
7-12	September 14, 2006	1620	MW	East	
7-13	September 15, 2006	0640	MW	East	
7-14	September 15, 2006	0700	MW	East	
7-15	September 15, 2006	0720	MW	East	
7-16	September 15, 2006	0740	MW	East	
7-17	September 15, 2006	0800	MW	North	
7-18	September 15, 2006	0820	MW	Southwest	
7-19	September 15, 2006	0840	MW	Southeast	
7-20	September 15, 2006	0900	MW	Northeast	
7-21	September 15, 2006	0920	MW	North	
7-22	September 15, 2006	0940	MW	Northwest	
7-23	September 15, 2006	1000	MW	West	
7-24	September 15, 2006	1020	MW	North	

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**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
7-25	September 15, 2006	1040	MW	Down	(b) (6)
7-26	September 15, 2006	1100	MW	Northwest	
7-27	September 15, 2006	1140	MW	Northwest	
7-28	September 15, 2006	1200	MW	North	
7-29	September 15, 2006	1340	MW	Northwest	
7-30	September 15, 2006	1400	MW	Northwest	
7-31	September 15, 2006	1420	MW	North	
7-32	September 15, 2006	1430	MW	West	
7-33	September 15, 2006	1450	MW	South	
7-34	September 15, 2006	1500	MW	South	
7-35	September 15, 2006	1520	MW	South	
7-36	September 15, 2006	1540	MW	West	
7-37	September 15, 2006	1600	MW	North	
7-38	September 15, 2006	1620	MW	East	
7-39	September 15, 2006	1640	MW	East	
8-1	December 13, 2006	1555	MW	East	
8-2	December 14, 2006	0725	MW	West	
8-3	December 14, 2006	0745	MW	Northeast	
8-4	December 14, 2006	0800	MW	West	
8-5	December 14, 2006	0830	MW	Northwest	
8-6	December 14, 2006	0840	MW	North	
8-7	December 14, 2006	0905	MW	East	
8-8	December 14, 2006	0910	MW	Northeast	
8-9	December 14, 2006	1020	MW	Southwest	
8-10	December 14, 2006	1045	MW	North	
8-11	December 14, 2006	1155	MW	East	
8-12	December 14, 2006	1210	MW	North	
8-13	December 14, 2006	1210	MW	North	
8-14	December 14, 2006	1400	MW	Northeast	
8-15	December 14, 2006	1415	MW	West	
8-16	December 14, 2006	1435	MW	Southwest	
8-17	December 14, 2006	1500	MW	Northwest	
8-18	December 14, 2006	1540	MW	North	
8-19	December 14, 2006	1605	MW	West	
8-20	December 14, 2006	1630	MW	North	
8-21	December 14, 2006	1700	MW	Southwest	
8-22	December 14, 2006	1720	MW	East	
8-23	December 14, 2006	1800	MW	North	
8-24	December 14, 2006	1820	MW	South	
8-25	December 15, 2006	0725	MW	Southwest	Hutterian Brethren Primary Well sample location. (b) (6)
8-26	December 15, 2006	0740	MW	Northwest	
8-27	December 15, 2006	0805	MW	Southwest	
8-28	December 15, 2006	0820	MW	East	
8-29	December 15, 2006	0850	MW	Northeast	
8-30	December 15, 2006	0900	MW	North	
8-31	December 15, 2006	0915	MW	Southwest	
8-32	December 15, 2006	0925	MW	West	

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**Camera Serial Number:** Personal Digital

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**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
8-33	December 15, 2006	1000	MW	South	(b) (6)
8-34	December 15, 2006	1030	MW	Southeast	
8-35	December 15, 2006	1040	MW	Northwest	
8-36	December 15, 2006	1100	MW	Southwest	Rayburn (NW Microfilms) sample location.
8-37	December 15, 2006	1115	MW	Southwest	(b) (6)
8-38	December 15, 2006	1130	MW	East	
9-1	April 16, 2007	0945	MW	South	Hutterian Brethren – chicken coop well sample location.
9-2	April 16, 2007	1005	MW	East	Hutterian Brethren – primary well sample location.
9-3	April 16, 2007	1045	MW	North	(b) (6)
9-4	April 16, 2007	1050	MW	Northwest	
9-5	April 16, 2007	1120	MW	South	
9-6	April 16, 2007	1140	MW	North	
9-7	April 16, 2007	1200	MW	East	
9-8	April 16, 2007	1220	MW	East	
9-9	April 16, 2007	1300	MW	East	MW01 sample location.
9-10	April 16, 2007	1345	MW	East	MW02 sample location.
9-11	April 16, 2007	1420	MW	East	MW03 sample location.
9-12	April 16, 2007	1500	MW	West	MW04 sample location.
10-1	May 23, 2007	1010	MW	Southeast	(b) (6)
10-2	May 23, 2007	1020	MW	Down	Pond downstream from surface water sample location.
10-3	May 23, 2007	1020	MW	Down	Surface water sample location.
10-4	May 23, 2007	1020	MW	Down	Surface water sample location and pond.
10-5	May 23, 2007	1140	MW	East	Gore™ Module locations near Hutterite Primary Well.
10-6	May 23, 2007	1230	MW	Southeast	Gore™ Module location near MW01.
10-7	May 23, 2007	1300	MW	Southeast	Gore™ Module locations near MW02.
10-8	May 23, 2007	1300	MW	North	Gore™ Module locations near MW02.
11-1	June 10, 2007	1830	MW	East	Gore™ Module locations near MW02.
11-2	June 10, 2007	1850	MW	Southeast	Gore™ Module locations near MW01.
11-3	June 10, 2007	1915	MW	East	Gore™ Module locations near Hutterite Primary Well.
11-4	June 11, 2007	0600	MW	South	(b) (6)
11-5	June 11, 2007	0620	MW	Down	
11-6	June 11, 2007	0645	MW	East	
11-7	June 11, 2007	0655	MW	East	
11-8	June 11, 2007	0715	MW	Northeast	
11-9	June 11, 2007	0730	MW	North	
11-10	June 11, 2007	0750	MW	North	
11-11	June 11, 2007	0805	MW	North	
11-12	June 11, 2007	0815	MW	North	
11-13	June 11, 2007	0835	MW	East	
11-14	June 11, 2007	0900	MW	North	
11-15	June 11, 2007	0925	MW	Southwest	
11-16	June 11, 2007	0940	MW	North	
11-17	June 11, 2007	1000	MW	North	
11-18	June 11, 2007	1030	MW	West	
11-19	June 11, 2007	1045	MW	South	
11-20	June 11, 2007	1105	MW	East	
11-21	June 11, 2007	1120	MW	Southeast	

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**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
11-22	June 11, 2007	1135	MW	Northwest	(b) (6)
11-23	June 11, 2007	1205	MW	South	
11-24	June 11, 2007	1225	MW	West	
11-25	June 11, 2007	1250	MW	North	
11-26	June 11, 2007	1415	MW	South	
11-27	June 11, 2007	1425	MW	East	
11-28	June 11, 2007	1430	MW	East	
11-29	June 11, 2007	1445	MW	North	
11-30	June 11, 2007	1510	MW	East	
11-31	June 11, 2007	1525	MW	West	
11-32	June 11, 2007	1600	MW	West	
11-33	June 11, 2007	1615	MW	Northwest	
11-34	June 12, 2007	0600	MW	South	
11-35	June 12, 2007	0630	MW	West	
11-36	June 12, 2007	0645	MW	East	
11-37	June 12, 2007	0705	MW	West	
11-38	June 12, 2007	0720	MW	North	
11-39	June 12, 2007	0740	MW	East	
11-40	June 12, 2007	0800	MW	Southwest	
11-41	June 12, 2007	0815	MW	West	
11-42	June 12, 2007	0835	MW	East	
11-43	June 12, 2007	0855	MW	West	
11-44	June 12, 2007	0915	MW	East	
11-45	June 12, 2007	0940	MW	North	
11-46	June 12, 2007	1000	MW	South	
11-47	June 12, 2007	1010	MW	Northeast	
11-48	June 12, 2007	1035	MW	Northwest	
11-49	June 12, 2007	1050	MW	West	
11-50	June 12, 2007	1120	MW	North	
11-51	June 12, 2007	1135	MW	East	Hutterite Primary Well sample location.
11-52	June 12, 2007	1155	MW	North	(b) (6)
11-53	June 12, 2007	1215	MW	East	
11-54	June 12, 2007	1240	MW	East	
11-55	June 12, 2007	1350	MW	South	
11-56	June 12, 2007	1420	MW	West	
11-57	June 12, 2007	1440	MW	Down	
11-58	June 12, 2007	1500	MW	Northwest	
11-59	June 12, 2007	1520	MW	West	
11-60	June 12, 2007	1540	MW	South	
11-61	June 12, 2007	1600	MW	Northwest	
11-62	June 12, 2007	1620	MW	Down	
11-63	June 12, 2007	1640	MW	East	
11-64	June 13, 2007	0600	MW	South	
11-65	June 13, 2007	0620	MW	West	
11-66	June 13, 2007	0625	MW	East	
11-67	June 13, 2007	0645	MW	East	
11-68	June 13, 2007	0700	MW	East	

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**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
11-69	June 13, 2007	0710	MW	East	(b) (6) residence sample location.
11-70	June 13, 2007	0750	MW	North	residence sample location.
11-71	June 13, 2007	0810	MW	West	residence sample location.
11-72	June 13, 2007	0815	MW	East	residence sample location.
11-73	June 13, 2007	0850	MW	South	residence sample location.
11-74	June 13, 2007	0820	MW	East	(b) (6) residence sample location.
11-75	June 13, 2007	0900	MW	East	(b) residence sample location.
11-76	June 13, 2007	0950	MW	South	Northwest Microfilms sample location.
11-77	June 13, 2007	1015	MW	North	(b) (6) residence sample location.
11-78	June 13, 2007	1030	MW	East	residence sample location.
11-79	June 13, 2007	1100	MW	South	residence sample location.
11-80	June 13, 2007	1120	MW	North	residence sample location.
11-81	June 13, 2007	1140	MW	West	residence sample location.
11-82	June 13, 2007	1200	MW	South	residence sample location.
11-83	June 13, 2007	1220	MW	West	residence sample location.
11-84	June 13, 2007	1240	MW	East	residence sample location.
11-85	June 13, 2007	1300	MW	North	residence sample location.
11-86	June 13, 2007	1320	MW	Southwest	residence sample location.
11-87	June 13, 2007	1325	MW	West	residence sample location.
11-88	June 13, 2007	1405	MW	South	residence sample location.
11-89	June 13, 2007	1410	MW	East	residence sample location.
11-90	June 13, 2007	1430	MW	East	residence sample location.
11-91	June 13, 2007	1450	MW	South	residence sample location.
11-92	June 13, 2007	1520	MW	East	residence sample location.
11-93	June 13, 2007	1540	MW	East	residence sample location.
11-94	June 13, 2007	1610	MW	North	residence sample location.
11-95	June 13, 2007	1640	MW	South	(b) residence sample location.
11-96	June 14, 2007	0550	MW	West	residence sample location.
11-97	June 14, 2007	0615	MW	East	residence sample location.
11-98	June 14, 2007	0635	MW	West	residence sample location.
11-99	June 14, 2007	0655	MW	North	residence sample location.
11-100	June 14, 2007	0720	MW	South	residence sample location.
11-101	June 14, 2007	0755	MW	North	(b) (6) residence sample location.
11-102	June 14, 2007	0805	MW	West	residence sample location.
11-103	June 14, 2007	0825	MW	West	residence sample location.
11-104	June 14, 2007	0900	MW	Northwest	(b) (6) residence sample location.
11-105	June 14, 2007	0920	MW	North	residence sample location.
11-106	June 14, 2007	0940	MW	North	residence sample location.
11-107	June 14, 2007	1025	MW	North	residence sample location.
11-108	June 14, 2007	1020	MW	South	residence sample location.
11-109	June 14, 2007	1040	MW	West	residence sample location.
11-110	June 14, 2007	1105	MW	East	residence sample location.
11-111	June 14, 2007	1120	MW	Northwest	residence sample location.
11-112	June 14, 2007	1155	MW	Down	residence sample location.
11-113	June 14, 2007	1205	MW	West	residence sample location.
11-114	June 14, 2007	1215	MW	West	residence sample location.
11-115	June 14, 2007	1240	MW	West	residence sample location.

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**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
11-116	June 14, 2007	1250	MW	North	(b) (6) residence sample location.
11-117	June 14, 2007	1300	MW	South	(b) (6) residence sample location.
11-118	June 14, 2007	1325	MW	West	(b) (6) residence sample location.
11-119	June 14, 2007	1345	MW	East	(b) (6) residence sample location.
11-120	June 14, 2007	1415	MW	West	(b) (6) residence sample location.
11-121	June 14, 2007	1430	MW	South	(b) (6) residence sample location.
11-122	June 14, 2007	1450	MW	South	(b) (6) residence sample location.
11-123	June 14, 2007	1515	MW	North	Eastern State Hospital sample location.
11-124	June 14, 2007	1545	MW	South	(b) (6) backup tank sample location.
12-1	October 22, 2007	0925	MW	East	Drilling at MW05.
12-2	October 22, 2007	1145	MW	East	Drilling at MW05.
12-3	October 23, 2007	0830	MW	Southeast	Drilling at MW06.
12-4	October 23, 2007	0830	MW	Southeast	Drilling at MW06.
12-5	October 23, 2007	0830	MW	East	Drilling at MW06.
12-6	October 23, 2007	1300	MW	Southeast	Drilling at MW07.
12-7	October 23, 2007	1300	MW	East	Drilling at MW07.
12-8	October 24, 2007	0825	MW	South	(b) (6) sample location.
12-9	October 24, 2007	0950	MW	East	(b) (6) residence sample location.
12-10	October 24, 2007	1020	MW	East	(b) (6) treatment system sample location.
12-11	October 25, 2007	0810	MW	South	Location of MW08 (approximate center of photo in field).
12-12	October 25, 2007	0820	MW	West	Location of Gore <sup>TM</sup> Modules near (b) (6) property.
12-13	October 25, 2007	0824	MW	South	Location of Gore <sup>TM</sup> Modules near (b) (6) residence.
12-14	October 25, 2007	0827	MW	South	Location of Gore <sup>TM</sup> Modules at (b) (6) residence.
12-15	October 25, 2007	0832	MW	North	Gore <sup>TM</sup> Modules near Wood Road north of driveway.
12-16	October 25, 2007	0833	MW	South	Gore <sup>TM</sup> Modules near Wood Road south of driveway.
12-17	October 25, 2007	0841	MW	Southwest	Location of Gore <sup>TM</sup> Modules near cow pens.
12-18	October 25, 2007	0845	MW	West	Location of Gore <sup>TM</sup> Modules vegetable garden.
12-19	November 7, 2007	0850	MW	East	Location of Gore <sup>TM</sup> Modules near (b) (6) property.
12-20	November 7, 2007	0900	MW	North	Location of Gore <sup>TM</sup> Modules near (b) (6) residence.
12-21	November 7, 2007	0915	MW	South	Location of Gore <sup>TM</sup> Modules at (b) (6) residence.
12-22	November 7, 2007	0930	MW	North	Gore <sup>TM</sup> Modules near Wood Road north of driveway.
12-23	November 7, 2007	0930	MW	South	Gore <sup>TM</sup> Modules near Wood Road south of driveway.
12-24	November 7, 2007	0950	MW	East	Location of Gore <sup>TM</sup> Modules near vegetable garden.
13-1	June 29, 2009	0910	MW	Southeast	(b) (6) downstairs air sample location.
13-2	June 29, 2009	0912	MW	Down	(b) (6) upstairs air sample location
13-3	June 29, 2009	0915	MW	Southwest	(b) (6) outdoors (background) air sample location
13-4	June 29, 2009	0950	MW	Southwest	(b) (6) outdoors (background) air sample location
13-5	June 29, 2009	0958	MW	Down	(b) (6) upstairs air sample location
13-6	June 30, 2009	0810	MW	Southeast	MW01 sample location.
13-7	June 30, 2009	1030	MW	Southeast	MW02 sample location.
13-8	June 30, 2009	1120	MW	Northeast	(b) (6) ater treatment system.
13-9	June 30, 2009	1150	MW	Southeast	(b) (6) sample location.
13-10	June 30, 2009	1155	MW	Southeast	MW04 sample location.
13-11	June 30, 2009	1215	MW	Northeast	MW05 sample location.
13-12	June 30, 2009	1300	MW	Southeast	MW06 sample location.
13-13	June 30, 2009	1330	MW	Down	MW07 sample location.
13-14	June 30, 2009	1405	MW	East	(b) (6) sample location.



## PHOTOGRAPH IDENTIFICATION SHEET

**Camera Serial Number:** Personal Digital

**TDD Number:** 06-09-0002

**Lens Type:** 35 millimeter

**Site Name:** Euclid Road TCE Monitoring Site

Photo	Date	Time	By	Direction	Description
13-15	June 30, 2009	1415	MW	West	MW08 sample location.

Note: All photographs were taken by Mark Woodke (MW).



Photo 1-1



Photo 1-2



Photo 1-3



Photo 1-4





Photo 1-5



Photo 1-6



Photo 1-7



Photo 1-8





Photo 1-9



Photo 1-10



Photo 1-11



Photo 1-12



Photo 2-1



Photo 2-2



Photo 2-3



Photo 2-4





Photo 2-5



Photo 2-6



Photo 2-7



Photo 2-8





Photo 2-9



Photo 2-10



Photo 2-11



Photo 2-12



Photo 2-13



Photo 2-14



Photo 2-15



Photo 2-16





Photo 2-17



Photo 2-18



Photo 2-19



Photo 3-1



Photo 3-2



Photo 3-3



Photo 3-4





Photo 3-5



Photo 3-6



Photo 3-7



Photo 3-8





Photo 4-1



Photo 4-2



Photo 4-3



Photo 4-4





Photo 4-5



Photo 4-6

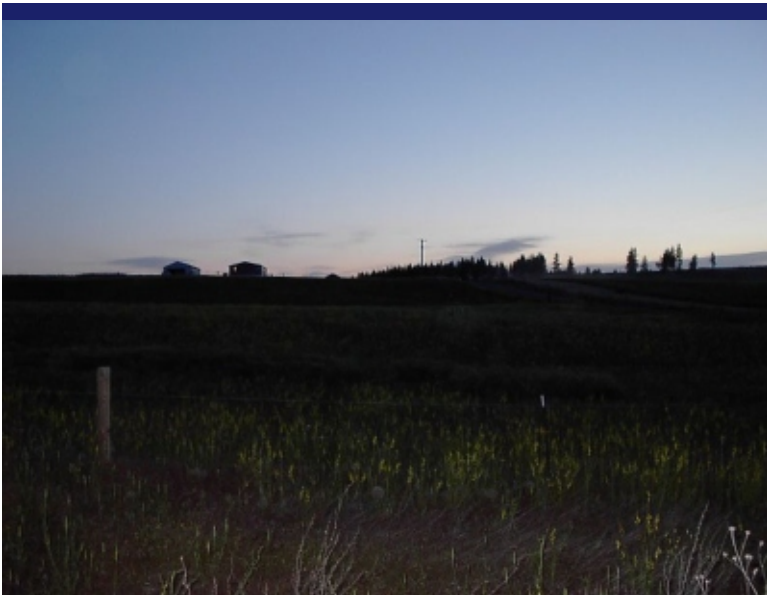


Photo 4-7



Photo 4-8





Photo 4-9



Photo 4-10



Photo 4-11



Photo 4-12



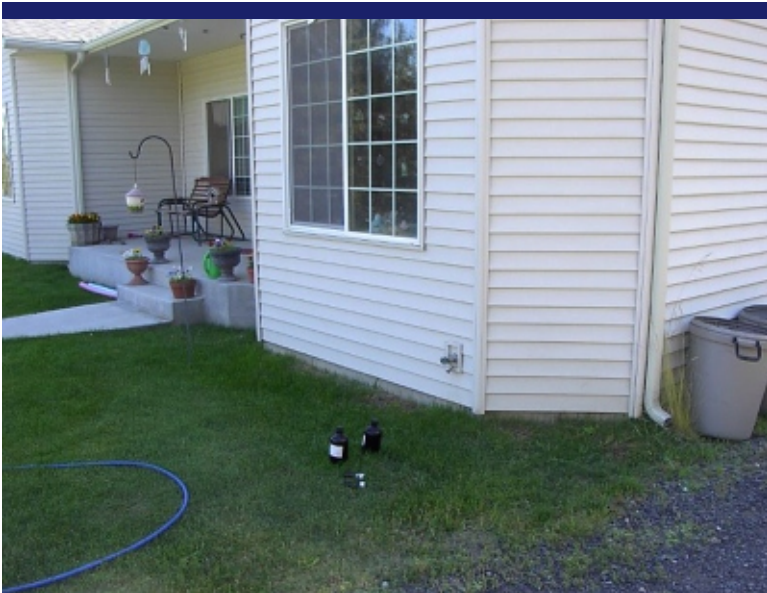


Photo 4-13



Photo 4-14



Photo 4-15



Photo 4-16





Photo 4-17



Photo 4-18



Photo 4-19



Photo 4-20





Photo 4-21



Photo 4-22



Photo 4-23

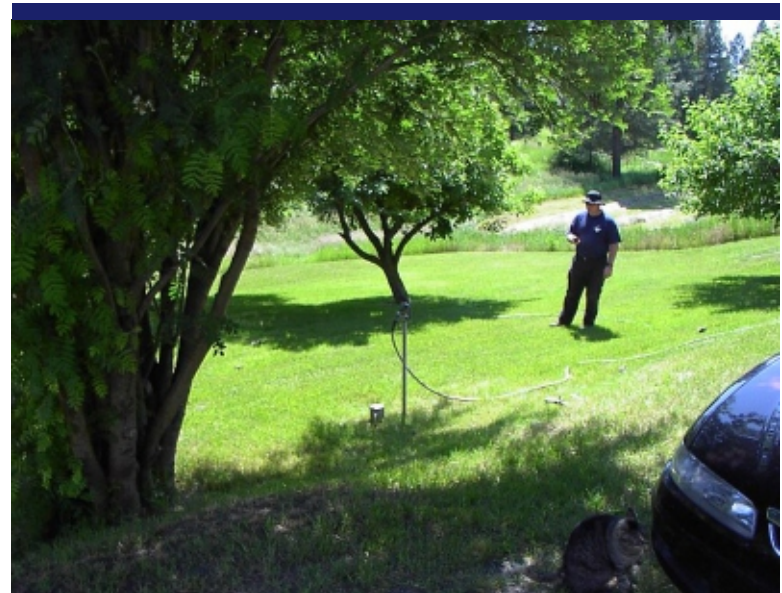


Photo 4-24



Photo 4-25

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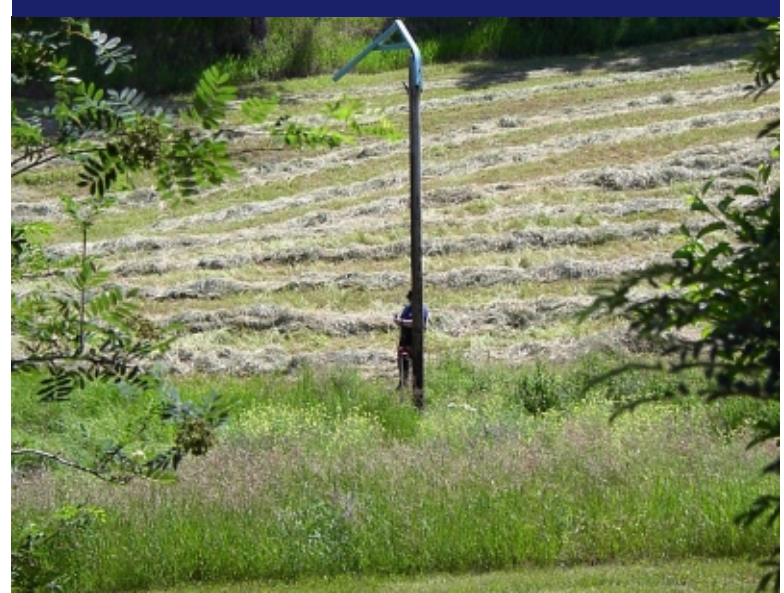


Photo 4-26

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Photo 5-1



Photo 5-2

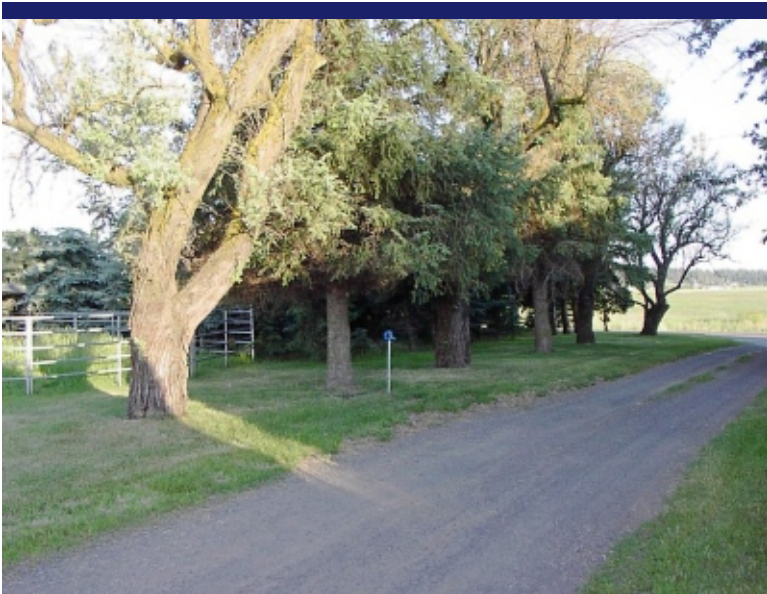


Photo 5-3



Photo 5-4





Photo 5-5



Photo 5-6



Photo 5-7



Photo 5-8





Photo 5-9



Photo 5-10



Photo 5-11



Photo 5-12





Photo 5-13



Photo 5-14



Photo 5-15

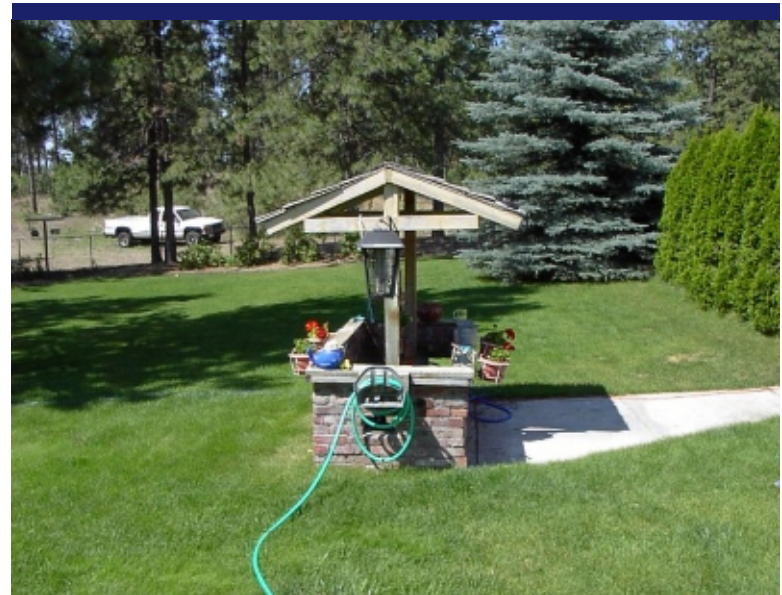


Photo 5-16





Photo 5-17



Photo 5-18



Photo 5-19



Photo 5-20





Photo 5-21



Photo 5-22



Photo 5-23



Photo 5-24





Photo 5-25



Photo 5-26



Photo 5-27



Photo 5-28



Photo 5-29

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Photo 5-30

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Photo 6-1

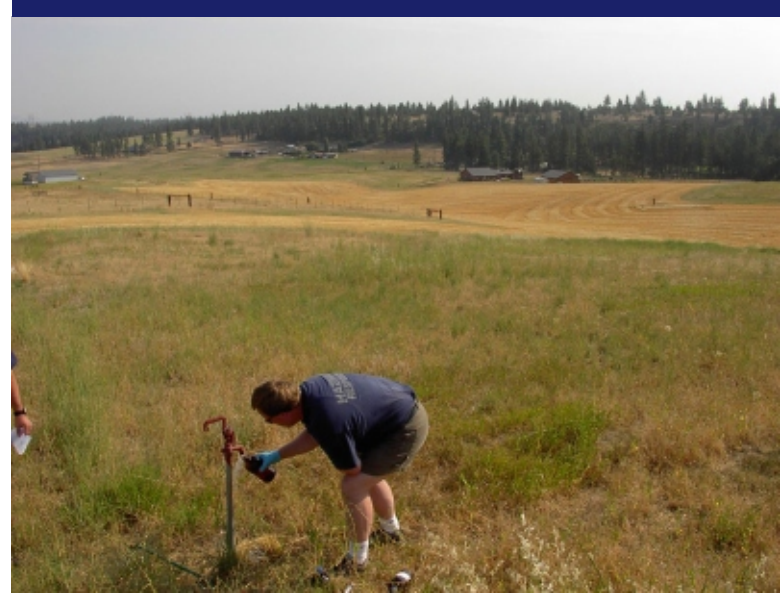


Photo 6-2



Photo 6-3



Photo 6-4





Photo 6-5



Photo 6-6



Photo 6-7



Photo 6-8





Photo 6-9



Photo 6-10



Photo 6-11



Photo 6-12





Photo 6-13



Photo 6-14



Photo 6-15



Photo 6-16





Photo 6-17



Photo 6-18



Photo 6-19



Photo 6-20





Photo 7-1



Photo 7-2



Photo 7-3



Photo 7-4





Photo 7-5



Photo 7-6



Photo 7-7



Photo 7-8





Photo 7-9



Photo 7-10



Photo 7-11



Photo 7-12

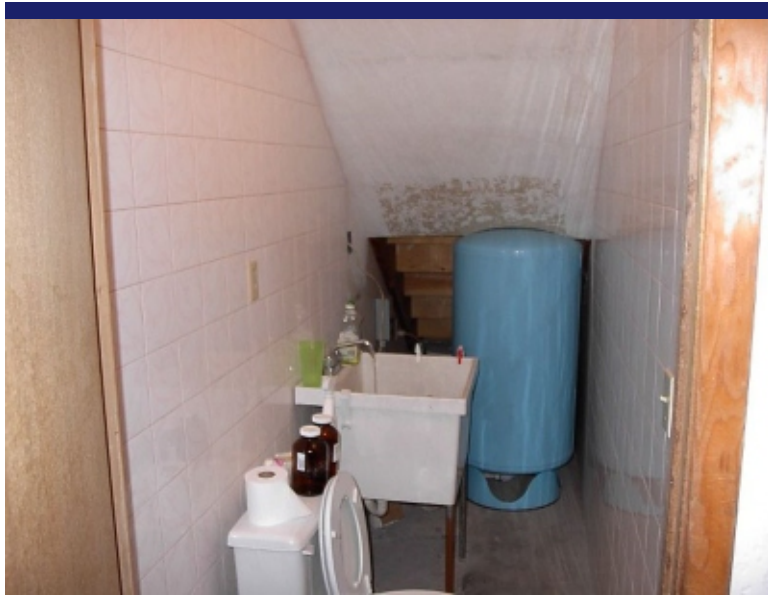


Photo 7-13



Photo 7-14

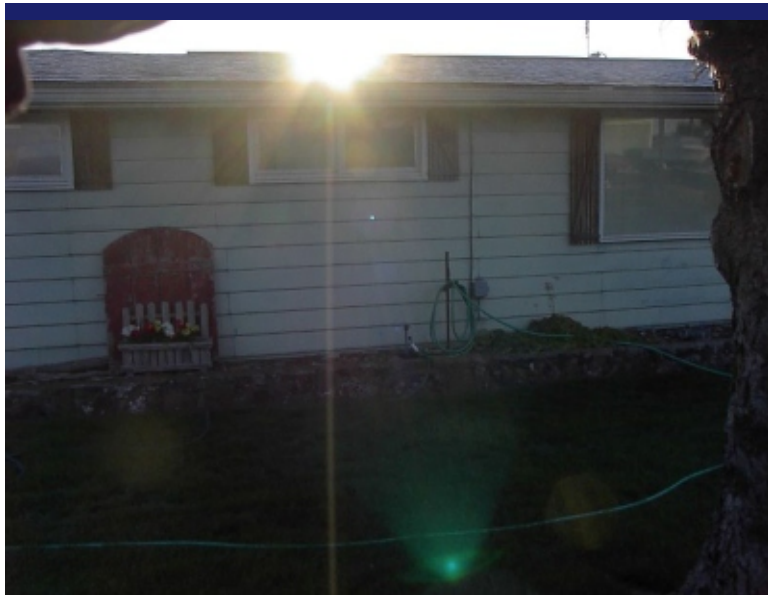


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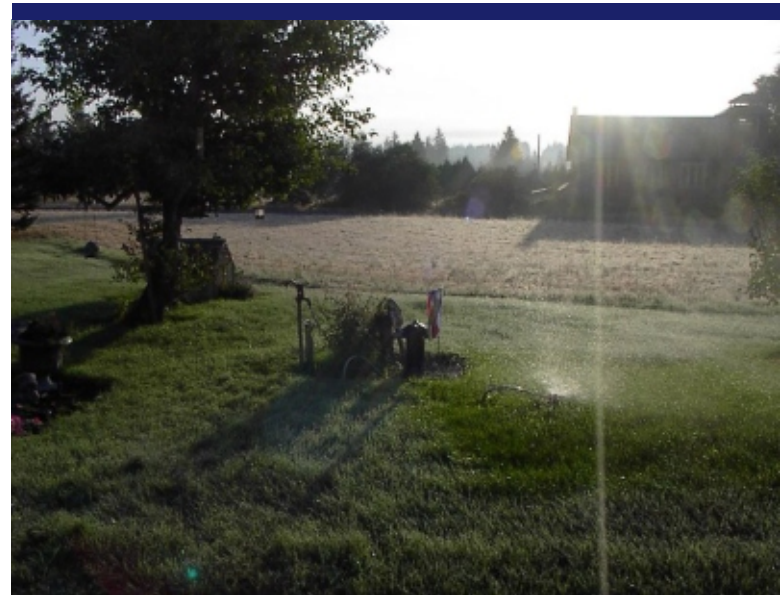


Photo 7-16





Photo 7-17



Photo 7-18



Photo 7-19



Photo 7-20





Photo 7-21



Photo 7-22



Photo 7-23



Photo 7-24





Photo 7-25



Photo 7-26



Photo 7-27



Photo 7-28





Photo 7-29



Photo 7-30

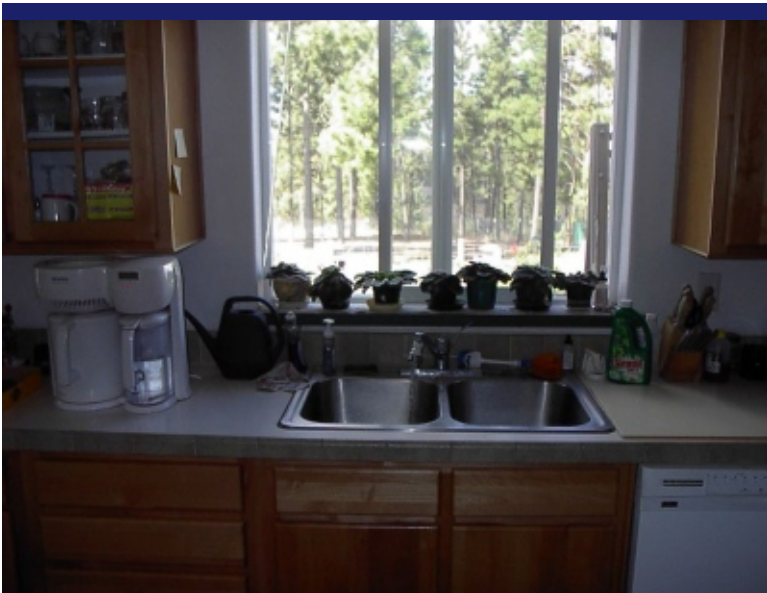


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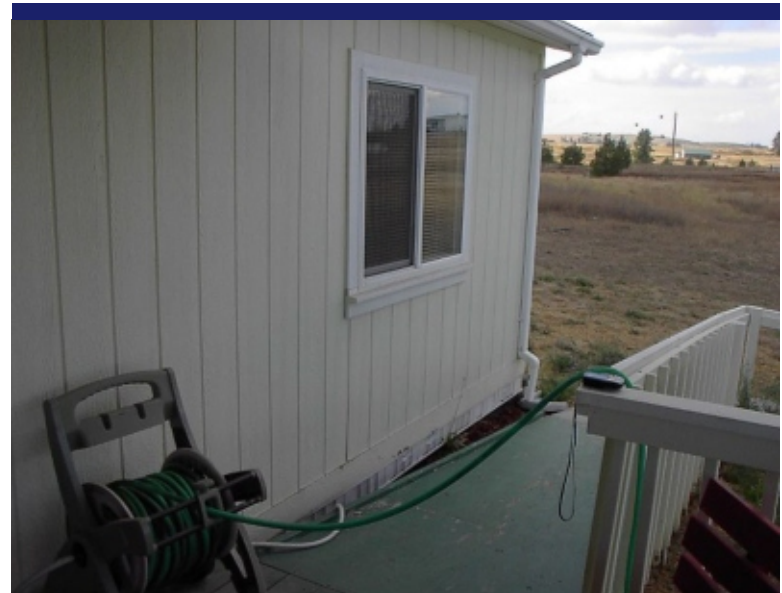


Photo 7-32





Photo 7-33



Photo 7-34



Photo 7-35



Photo 7-36



Photo 7-37

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Photo 7-38

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Photo 7-39

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Photo 8-1

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Photo 8-2

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Photo 8-3

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Photo 8-4

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Photo 8-5



Photo 8-6



Photo 8-7



Photo 8-8





Photo 8-9



Photo 8-10



Photo 8-11



Photo 8-12





Photo 8-13



Photo 8-14



Photo 8-15



Photo 8-16





Photo 8-17



Photo 8-18



Photo 8-19



Photo 8-20





Photo 8-21



Photo 8-22



Photo 8-23



Photo 8-24





Photo 8-25



Photo 8-26



Photo 8-27



Photo 8-28





Photo 8-29



Photo 8-30



Photo 8-31



Photo 8-32





Photo 8-33



Photo 8-34



Photo 8-35



Photo 8-36



Photo 8-37



Photo 8-38



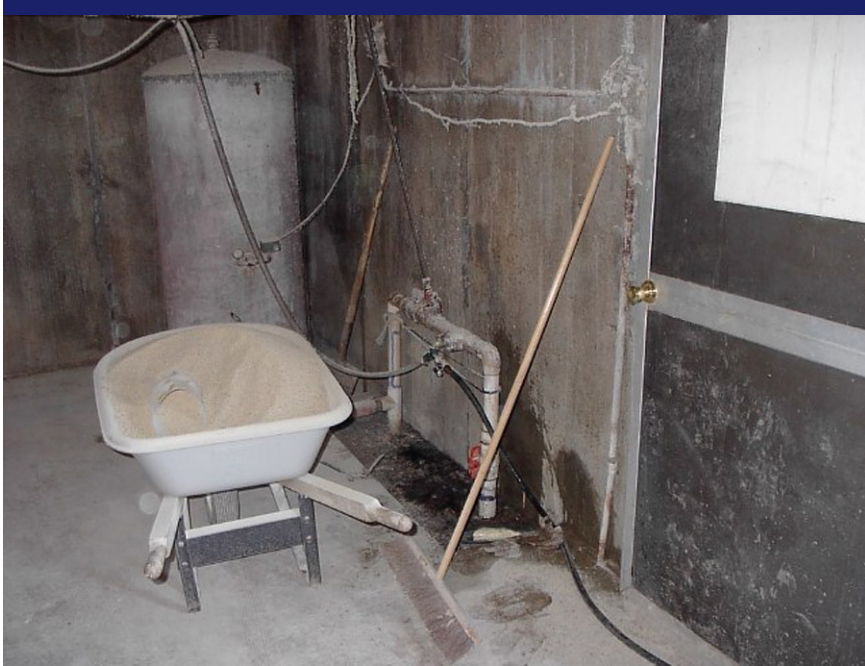


Photo 9-1



Photo 9-2



Photo 9-3



Photo 9-4





Photo 9-5



Photo 9-6



Photo 9-7



Photo 9-8





Photo 9-9



Photo 9-10



Photo 9-11



Photo 9-12





Photo 10-1

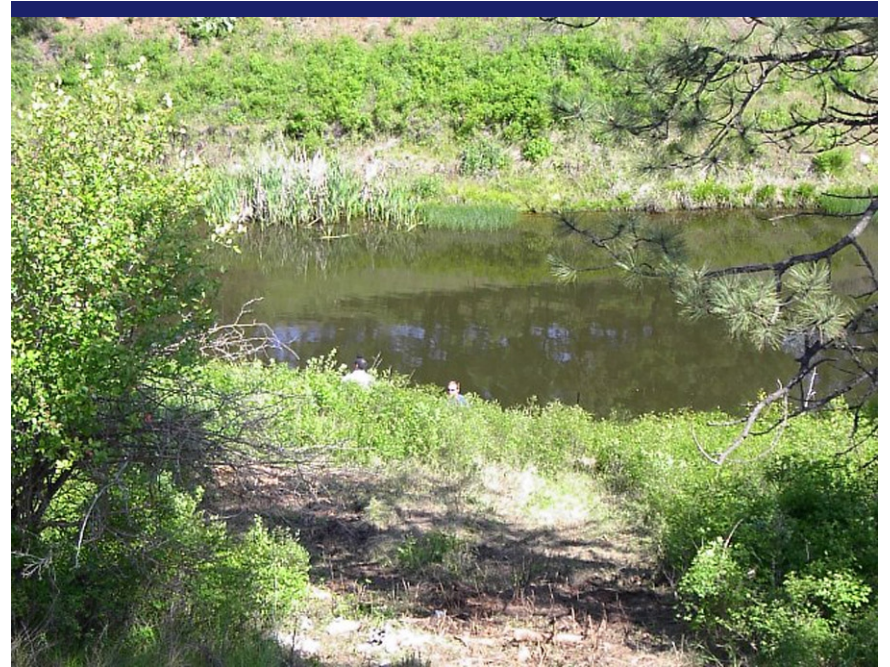


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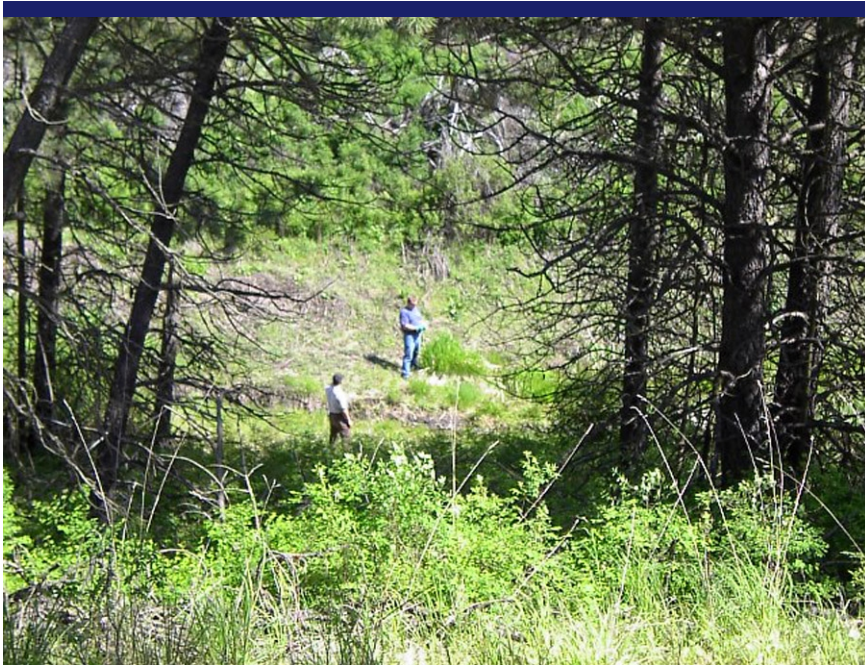


Photo 10-3



Photo 10-4





Photo 10-5



Photo 10-6



Photo 10-7



Photo 10-8





Photo 11-1



Photo 11-2



Photo 11-3



Photo 11-4





Photo 11-5



Photo 11-6



Photo 11-7



Photo 11-8





Photo 11-9



Photo 11-10



Photo 11-11



Photo 11-12





Photo 11-13



Photo 11-14



Photo 11-15



Photo 11-16





Photo 11-17



Photo 11-18



Photo 11-19



Photo 11-20





Photo 11-21



Photo 11-22



Photo 11-23



Photo 11-24





Photo 11-25



Photo 11-26



Photo 11-27



Photo 11-28





Photo 11-29



Photo 11-30



Photo 11-31



Photo 11-32





Photo 11-33



Photo 11-34



Photo 11-35

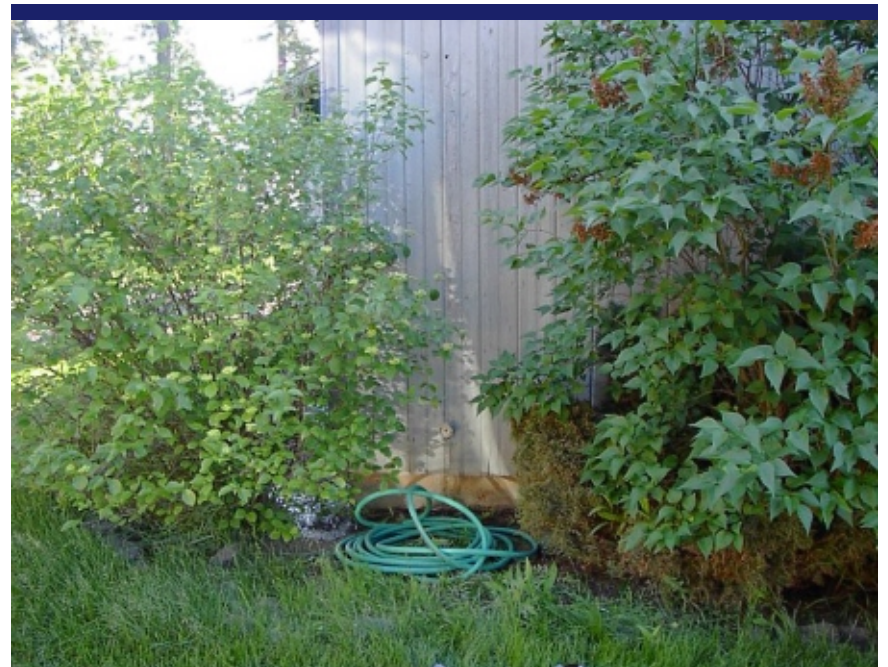


Photo 11-36





Photo 11-37



Photo 11-38



Photo 11-39



Photo 11-40





Photo 11-41

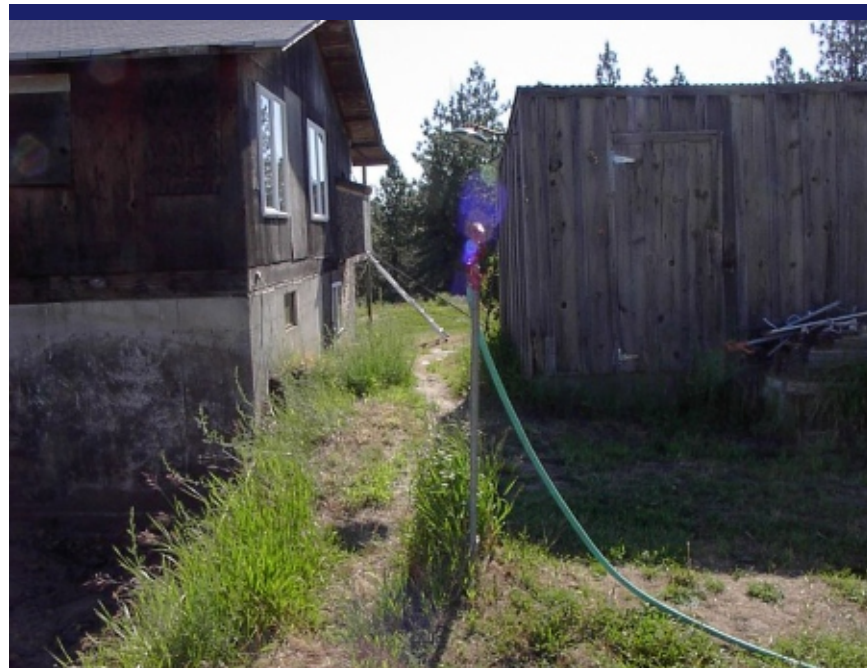


Photo 11-42



Photo 11-43



Photo 11-44





Photo 11-45



Photo 11-46



Photo 11-47



Photo 11-48





Photo 11-49



Photo 11-50



Photo 11-51



Photo 11-52





Photo 11-53



Photo 11-54



Photo 11-55



Photo 11-56





Photo 11-57



Photo 11-58

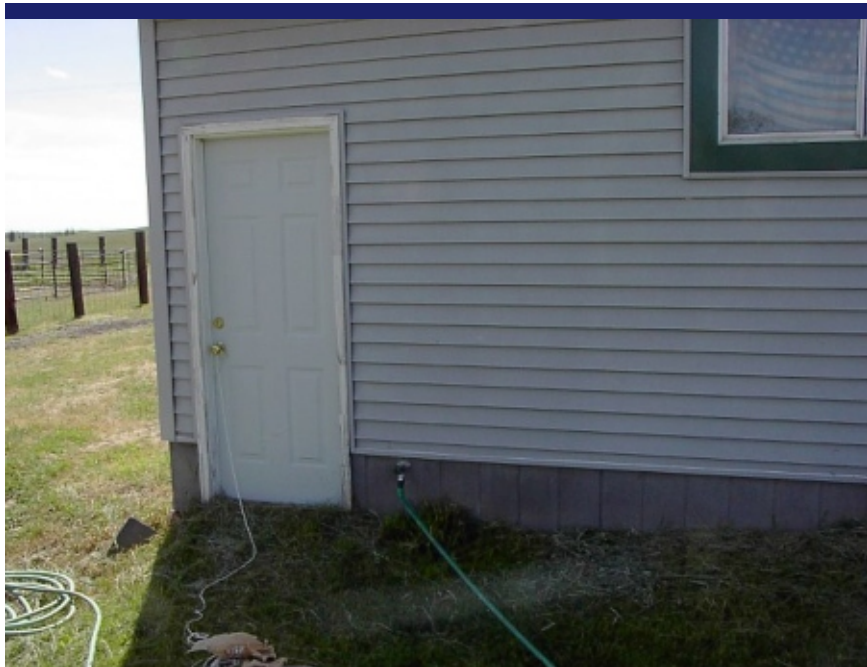


Photo 11-59



Photo 11-60





Photo 11-61



Photo 11-62



Photo 11-63



Photo 11-64





Photo 11-65



Photo 11-66



Photo 11-67



Photo 11-68





Photo 11-69



Photo 11-70



Photo 11-71



Photo 11-72





Photo 11-73



Photo 11-74



Photo 11-75



Photo 11-76





Photo 11-77



Photo 11-78



Photo 11-79



Photo 11-80





Photo 11-81



Photo 11-82



Photo 11-83



Photo 11-84





Photo 11-85

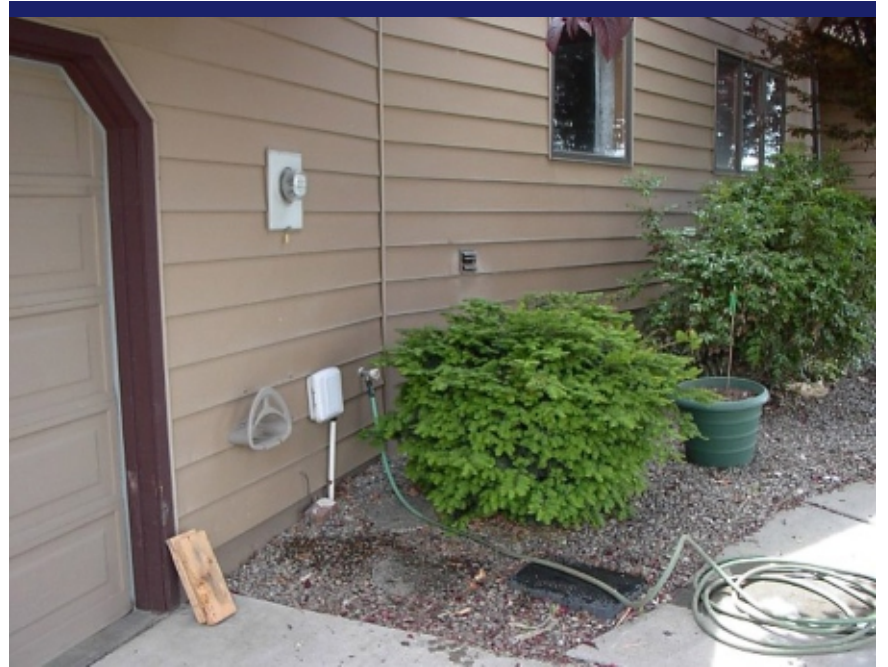


Photo 11-86



Photo 11-87



Photo 11-88





Photo 11-89



Photo 11-90



Photo 11-91



Photo 11-92





Photo 11-93



Photo 11-94

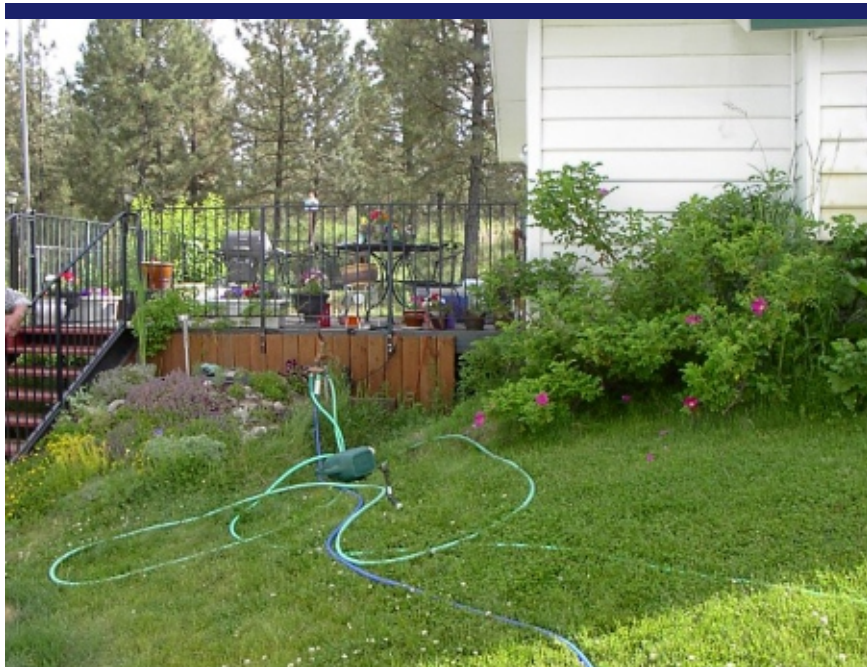


Photo 11-95



Photo 11-96





Photo 11-97



Photo 11-98



Photo 11-99



Photo 11-100





Photo 11-101



Photo 11-102



Photo 11-103



Photo 11-104





Photo 11-105



Photo 11-106



Photo 11-107



Photo 11-108





Photo 11-109

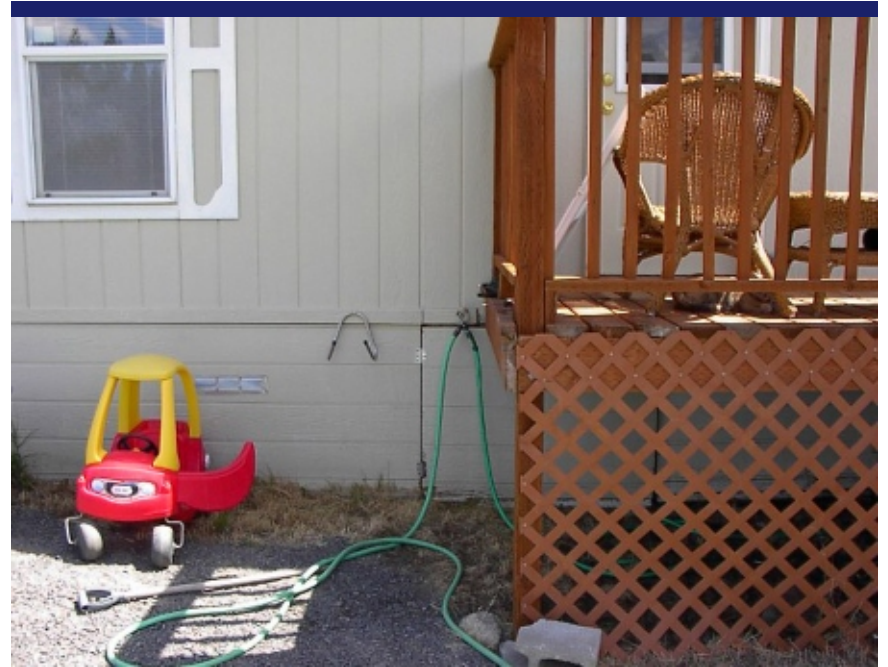


Photo 11-110



Photo 11-111



Photo 11-112





Photo 11-113



Photo 11-114



Photo 11-115



Photo 11-116





Photo 11-117



Photo 11-118



Photo 11-119



Photo 11-120





Photo 11-121



Photo 11-122



Photo 11-123



Photo 11-124





Photo 12-1



Photo 12-2



Photo 12-3



Photo 12-4



Photo 12-5



Photo 12-6



Photo 12-7



Photo 12-8





Photo 12-9



Photo 12-10



Photo 12-11



Photo 12-12





Photo 12-13



Photo 12-14



Photo 12-15



Photo 12-16





Photo 12-17



Photo 12-18



Photo 12-19



Photo 12-20





Photo 12-21



Photo 12-22



Photo 12-23



Photo 12-24



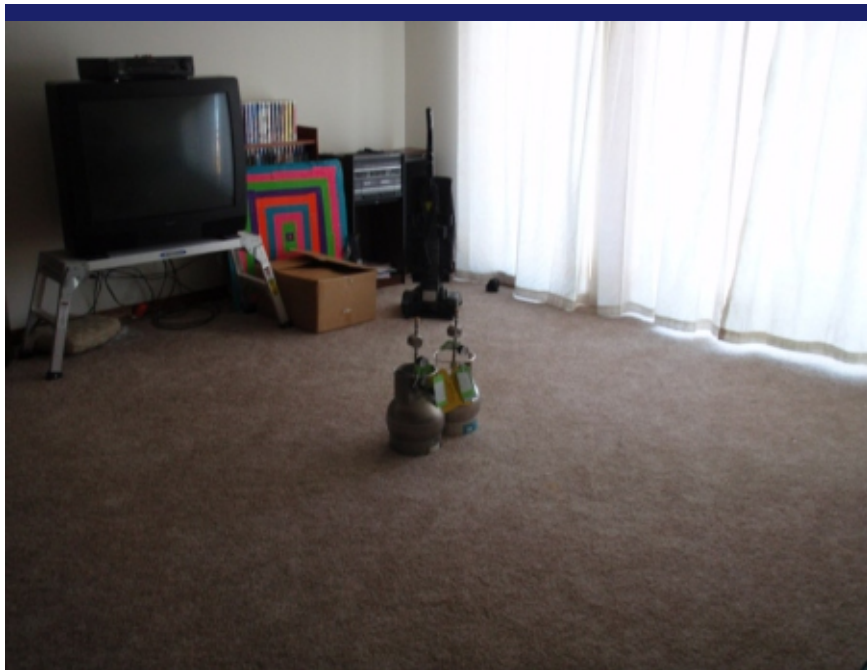


Photo 13-1



Photo 13-2



Photo 13-3



Photo 13-4





Photo 13-5



Photo 13-6



Photo 13-7



Photo 13-8





Photo 13-9



Photo 13-10



Photo 13-11



Photo 13-12





Photo 13-13



Photo 13-14



Photo 13-15



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**B**

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## **Data Validation Memoranda**

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# ecology and environment, inc.

International Specialists in the Environment

2101 Fourth Avenue, Suite 1900, Seattle, WA 98121

Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: April 19, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of nine water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06030901	06030902	06030903	06030904	06030905
06030906	06030907	06030910	06030911	

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on March 28, 2006, were extracted for NDMA analysis of March 31 or April 4, 2006, were extracted for perchlorate analysis on March 30, 2006, and were analyzed for TCE on March 31, 2006, for NDMA between April 6 and 12, 2006, and for perchlorate on March 30, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate.

#### 2. Tuning (TCE analysis only): Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Acceptable.**

All SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan,



and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6093147  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06030901  
Lab Sample ID: D6C290373-001  
Lab WorkOrder: H18AK1AD  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 05:58  
Date/Time Analyzed: 03/31/06 07:27  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	92	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	100	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

*MW 4-19-06*





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6093147  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06030902  
Lab Sample ID: D6C290373-002  
Lab WorkOrder: H18AT1AD  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 05:58  
Date/Time Analyzed: 03/31/06 07:47  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	103	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

*mw*  
*4/19/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6093147  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06030903  
Lab Sample ID: D6C290373-003  
Lab WorkOrder: H18AW1AD  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 05:58  
Date/Time Analyzed: 03/31/06 08:07  
Instrument ID: RL

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	105	78	118	
1868-53-7	Dibromofluoromethane	100	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

*Handwritten signature*  
4/19/06



## Ecology and Environment, Inc.

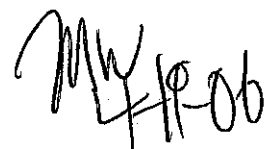
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Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6093147  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06030904  
Lab Sample ID: D6C290373-004  
Lab WorkOrder: H18AX1AD  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 05:58  
Date/Time Analyzed: 03/31/06 08:27  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.87	0.16	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6C290373Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6093147Sample Aliquot: 7.5 mLDilution Factor: 2.66Client Sample ID: 06030905Lab Sample ID: D6C290373-005Lab WorkOrder: H18A21ADDate/Time Collected: 03/28/06 00:00Date/Time Received: 03/29/06 09:00

Date/Time Leached:

Date/Time Extracted: 03/31/06 05:58Date/Time Analyzed: 03/31/06 09:27Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	110	0.43	2.7	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	115	65	126	
2037-26-5	Toluene-d8	108	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6C290373  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6093147  
 Sample Aliquot: 3 mL  
 Dilution Factor: 6.66

Client Sample ID: 06030906  
 Lab Sample ID: D6C290373-006  
 Lab WorkOrder: H18A31AD  
 Date/Time Collected: 03/28/06 00:00  
 Date/Time Received: 03/29/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 03/31/06 05:58  
 Date/Time Analyzed: 03/31/06 09:47  
 Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	210	1.1	6.7	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	115	65	126	
2037-26-5	Toluene-d8	107	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

*MW*  
*4/11/06*

Ecology and Environment, Inc.

Analysis Data Sheet

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6C290373  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 8260B  
**Unit:** ug/L  
**QC Batch ID:** 6093147  
**Sample Aliquot:** 4 mL  
**Dilution Factor:** 5

**Client Sample ID:** 06030907  
**Lab Sample ID:** D6C290373-007  
**Lab WorkOrder:** H18A41AD  
**Date/Time Collected:** 03/28/06 00:00  
**Date/Time Received:** 03/29/06 09:00  
**Date/Time Leached:**  
**Date/Time Extracted:** 03/31/06 05:58  
**Date/Time Analyzed:** 03/31/06 10:07  
**Instrument ID:** R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	130	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	123	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

MW  
 4-18-06



**Ecology and Environment, Inc.**

**Analysis Data Sheet**

Lab Name: STL DENVER  
 Lot/SDG Number: D6C290373  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6093147  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06030910  
 Lab Sample ID: D6C290373-008  
 Lab WorkOrder: H18A51AA  
 Date/Time Collected: 03/28/06 00:00  
 Date/Time Received: 03/29/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 03/31/06 05:58  
 Date/Time Analyzed: 03/31/06 10:27  
 Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	118	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

MW  
4/10/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6093147  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06030911  
Lab Sample ID: D6C290373-009  
Lab WorkOrder: H18A91AD  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 05:58  
Date/Time Analyzed: 03/31/06 10:47  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	118	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6090217  
Sample Aliquot: 1027 mL  
Dilution Factor: 1

Client Sample ID: 06030901  
Lab Sample ID: D6C290373-001  
Lab WorkOrder: H18AK1AA  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 10:00  
Date/Time Analyzed: 04/06/06 19:05  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	70	20	150	

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6090217  
Sample Aliquot: 1012 mL  
Dilution Factor: 1

Client Sample ID: 06030902  
Lab Sample ID: D6C290373-002  
Lab WorkOrder: H18AT1AA  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/31/06 10:00  
Date/Time Analyzed: 04/06/06 19:29  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	96	20	150	

*MW*  
*4/19-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6094275  
Sample Aliquot: 1029 mL  
Dilution Factor: 1

Client Sample ID: 06030903  
Lab Sample ID: D6C290373-003  
Lab WorkOrder: H18AW1AA  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 04/04/06 13:00  
Date/Time Analyzed: 04/12/06 18:05  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	93	20	150	

*mw*  
*4-19-06*

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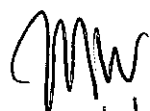
Analysis Data Sheet

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6C290373  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** SOP  
**Unit:** ng/L  
**QC Batch ID:** 6094275  
**Sample Aliquot:** 1025 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06030904  
**Lab Sample ID:** D6C290373-004  
**Lab WorkOrder:** H18AX1AA  
**Date/Time Collected:** 03/28/06 00:00  
**Date/Time Received:** 03/29/06 09:00  
**Date/Time Leached:**  
**Date/Time Extracted:** 04/04/06 13:00  
**Date/Time Analyzed:** 04/12/06 18:29  
**Instrument ID:** CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	102	20	150	

  
 4/9-06



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Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6094275  
Sample Aliquot: 1036 mL  
Dilution Factor: 1

Client Sample ID: 06030905  
Lab Sample ID: D6C290373-005  
Lab WorkOrder: H18A21AA  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 04/04/06 13:00  
Date/Time Analyzed: 04/12/06 19:40  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	106	20	150	

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4/19/06

Ecology and Environment, Inc.


Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6C290373  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6094285  
 Sample Aliquot: 1021 mL  
 Dilution Factor: 1

Client Sample ID: 06030906  
 Lab Sample ID: D6C290373-006  
 Lab WorkOrder: H18A31AA  
 Date/Time Collected: 03/28/06 00:00  
 Date/Time Received: 03/29/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 04/04/06 12:00  
 Date/Time Analyzed: 04/11/06 20:54  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	95	20	150	

  
 4/19/06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6094285  
Sample Aliquot: 1018 mL  
Dilution Factor: 1

Client Sample ID: 06030907  
Lab Sample ID: D6C290373-007  
Lab WorkOrder: H18A41AA  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 04/04/06 12:00  
Date/Time Analyzed: 04/11/06 21:18  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	104	20	150	

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Ecology and Environment, Inc.

Analysis Data Sheet

<b>Lab Name:</b> <u>STL DENVER</u> <b>Lot/SDG Number:</b> <u>D6C290373</u> <b>Matrix:</b> <u>WATER</u> <b>% Moisture:</b> <u>N/A</u> <b>Basis:</b> <u>Wet</u> <b>Analysis Method:</b> <u>SOP</u> <b>Unit:</b> <u>ng/L</u> <b>QC Batch ID:</b> <u>6094285</u> <b>Sample Aliquot:</b> <u>1032 mL</u> <b>Dilution Factor:</b> <u>1</u>	<b>Client Sample ID:</b> <u>06030911</u> <b>Lab Sample ID:</b> <u>D6C290373-009</u> <b>Lab WorkOrder:</b> <u>H18A91AA</u> <b>Date/Time Collected:</b> <u>03/28/06 00:00</u> <b>Date/Time Received:</b> <u>03/29/06 09:00</u> <b>Date/Time Leached:</b> <u></u> <b>Date/Time Extracted:</b> <u>04/04/06 12:00</u> <b>Date/Time Analyzed:</b> <u>04/11/06 21:42</u> <b>Instrument ID:</b> <u>CIMS1</u>
--	--

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	100	20	150	

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4-19-06





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6089063  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06030901  
Lab Sample ID: D6C290373-001  
Lab WorkOrder: H18AK1AC  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/30/06 06:18  
Date/Time Analyzed: 03/30/06 08:03  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.22	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
4/19/06

**Ecology and Environment, Inc.**

**Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6C290373  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6089063  
**Sample Aliquot:** 5 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06030902  
**Lab Sample ID:** D6C290373-002  
**Lab WorkOrder:** H18AT1AC  
**Date/Time Collected:** 03/28/06 00:00  
**Date/Time Received:** 03/29/06 09:00  
**Date/Time Leached:**  
**Date/Time Extracted:** 03/30/06 06:18  
**Date/Time Analyzed:** 03/30/06 08:24  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.47	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

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 4/19-06



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6C290373Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 6860Unit: ug/LQC Batch ID: 6089063Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06030903Lab Sample ID: D6C290373-003Lab WorkOrder: H18AWIACDate/Time Collected: 03/28/06 00:00Date/Time Received: 03/29/06 09:00

Date/Time Leached:

Date/Time Extracted: 03/30/06 06:18Date/Time Analyzed: 03/30/06 11:17Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

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4/19-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6089063  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06030904  
Lab Sample ID: D6C290373-004  
Lab WorkOrder: H18AX1AC  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/30/06 06:18  
Date/Time Analyzed: 03/30/06 11:39  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.67	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

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4-11-06



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6C290373  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6089063  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06030905  
Lab Sample ID: D6C290373-005  
Lab WorkOrder: H18A21AC  
Date/Time Collected: 03/28/06 00:00  
Date/Time Received: 03/29/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 03/30/06 06:18  
Date/Time Analyzed: 03/30/06 12:43  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.88	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

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4/19/06

Ecology and Environment, Inc.

Analysis Data Sheet

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6C290373  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6089063  
**Sample Aliquot:** 5 mL  
**Dilution Factor:** 5

**Client Sample ID:** 06030906  
**Lab Sample ID:** D6C290373-006  
**Lab WorkOrder:** H18A31AC  
**Date/Time Collected:** 03/28/06 00:00  
**Date/Time Received:** 03/29/06 09:00  
**Date/Time Leached:**  
**Date/Time Extracted:** 03/30/06 06:18  
**Date/Time Analyzed:** 03/30/06 13:04  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

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4/19-06



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Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6C290373  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 6089063  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06030907  
 Lab Sample ID: D6C290373-007  
 Lab WorkOrder: H1&A41AC  
 Date/Time Collected: 03/28/06 00:00  
 Date/Time Received: 03/29/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 03/30/06 06:18  
 Date/Time Analyzed: 03/30/06 13:25  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW 4/19/06

**Ecology and Environment, Inc.**

**Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6C290373  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6089063  
**Sample Aliquot:** 5 mL  
**Dilution Factor:** 5

**Client Sample ID:** 06030911  
**Lab Sample ID:** D6C290373-009  
**Lab WorkOrder:** H18A91AC  
**Date/Time Collected:** 03/28/06 00:00  
**Date/Time Received:** 03/29/06 09:00  
**Date/Time Leached:**  
**Date/Time Extracted:** 03/30/06 06:18  
**Date/Time Analyzed:** 03/30/06 13:46  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.3	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

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# ecology and environment, inc.

International Specialists in the Environment

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## MEMORANDUM

DATE: May 9, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 20 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06040001	06040002	06040003	06040004	06040005
06040006	06040007	06040008	06040009	06040010
06040011	06040012	06040013	06040014	06040015
06040016	06040017	06040018	06040019	06040020

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on April 15, 2006, were extracted for NDMA analysis on April 18, 20, 22, or 29, 2006, were extracted for perchlorate analysis on April 20, 2006, and were analyzed for TCE on April 20, 2006, for NDMA on April 24 or May 1, 2006, and for perchlorate on April 21, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate except the reextraction of sample 06050018 for NDMA. The original result for this sample was used.

#### 2. Tuning (TCE analysis only): Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Satisfactory.**

All SMC recoveries were within QC limits except the original NDMA analysis of sample 06040018 (9% vs. the QC limits of 20% - 150%). The sample was reextracted outside of holding time limits, so the original result was used. The associated sample quantitation limit was qualified as an estimated quantity (UJ).

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) and Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Analysis: Acceptable.**

MS, MSD, LCS, and LCSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

## 12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6111237  
Sample Aliquot: 8 mL  
Dilution Factor: 2.5

Client Sample ID: 06040002  
Lab Sample ID: D6D180325-020  
Lab WorkOrder: H3JC31AA  
Date/Time Collected: 04/15/06 00:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 08:56  
Date/Time Analyzed: 04/20/06 15:41  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	120	0.40	2.5	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	79	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	92	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

*Handwritten signature and date: MW 5/9/06*

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6111237  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06040005  
Lab Sample ID: D6D180325-021  
Lab WorkOrder: H3JC51AA  
Date/Time Collected: 04/15/06 00:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 08:56  
Date/Time Analyzed: 04/20/06 16:05  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.24	0.16	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	83	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	95	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

MW  
5/8/06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 8260B  
**Unit:** ug/L  
**QC Batch ID:** 6111237  
**Sample Aliquot:** 20 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06040007  
**Lab Sample ID:** D6D180325-022  
**Lab WorkOrder:** H3JC61AA  
**Date/Time Collected:** 04/15/06 00:00  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**  
**Date/Time Extracted:** 04/20/06 08:56  
**Date/Time Analyzed:** 04/20/06 16:28  
**Instrument ID:** E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	97	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

*MW*  
*5906*



**Ecology and Environment, Inc.**

**Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 8260B  
**Unit:** ug/L  
**QC Batch ID:** 6111237  
**Sample Aliquot:** 20 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06040008  
**Lab Sample ID:** D6D180325-023  
**Lab WorkOrder:** H3JC71AA  
**Date/Time Collected:** 04/15/06 00:00  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**  
**Date/Time Extracted:** 04/20/06 08:56  
**Date/Time Analyzed:** 04/20/06 16:50  
**Instrument ID:** E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	70	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	86	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

MW  
 5906

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6111237  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06040009  
Lab Sample ID: D6D180325-024  
Lab Work Order: H3JC81AA  
Date/Time Collected: 04/15/06 00:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 08:56  
Date/Time Analyzed: 04/20/06 17:38  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	95	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

MW  
5/4/06

**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

Lab Name: STL DENVER  
 Lot/SDG Number: D6D180325  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6111237  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06040010  
 Lab Sample ID: D6D180325-025  
 Lab WorkOrder: H3JC91AA  
 Date/Time Collected: 04/15/06 00:00  
 Date/Time Received: 04/18/06 08:45  
 Date/Time Leached:   
 Date/Time Extracted: 04/20/06 08:56  
 Date/Time Analyzed: 04/20/06 18:02  
 Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	93	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

MW  
5906



**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6111237  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06040025  
Lab Sample ID: D6D180325-026  
Lab WorkOrder: H3JDA1AA  
Date/Time Collected: 04/15/06 00:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 08:56  
Date/Time Analyzed: 04/20/06 18:25  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

MW  
5-9-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6110522  
Sample Aliquot: 948 mL  
Dilution Factor: 1

Client Sample ID: 06040001  
Lab Sample ID: D6D180325-001  
Lab WorkOrder: H3JA21AA  
Date/Time Collected: 04/15/06 10:29  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 19:00  
Date/Time Analyzed: 04/24/06 22:06  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	99	20	150	

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59-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6110522  
Sample Aliquot: 1033 mL  
Dilution Factor: 1

Client Sample ID: 06040002  
Lab Sample ID: D6D180325-002  
Lab WorkOrder: H3JA41AA  
Date/Time Collected: 04/15/06 10:48  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 19:00  
Date/Time Analyzed: 04/24/06 22:29  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.69	0.36	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	96	20	150	

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**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6D180325Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6111597Sample Aliquot: 1002 mLDilution Factor: 1Client Sample ID: 06040003Lab Sample ID: D6D180325-003Lab WorkOrder: H3JA51AADate/Time Collected: 04/15/06 11:07Date/Time Received: 04/18/06 08:45

Date/Time Leached:

Date/Time Extracted: 04/22/06 08:00Date/Time Analyzed: 04/24/06 15:25Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	92	20	150	

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**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6110522  
Sample Aliquot: 1023 mL  
Dilution Factor: 1

Client Sample ID: 06040004  
Lab Sample ID: D6D180325-004  
Lab WorkOrder: H3JA61AA  
Date/Time Collected: 04/15/06 11:15  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 19:00  
Date/Time Analyzed: 04/24/06 22:53  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	2.0	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	94	20	150	

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*5-9-06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 1012 mL  
Dilution Factor: 1

Client Sample ID: 06040005  
Lab Sample ID: D6D180325-005  
Lab WorkOrder: H3JA71AA  
Date/Time Collected: 04/15/06 11:28  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 15:49  
Instrument ID: CJMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	92	20	150	

*MW*  
*59-06*





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 984 mL  
Dilution Factor: 1

Client Sample ID: 06040006  
Lab Sample ID: D6D180325-006  
Lab WorkOrder: H3JA81AA  
Date/Time Collected: 04/15/06 12:22  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 16:12  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	89	20	150	

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5906

Ecology and Environment, Inc.

Analysis Data Sheet

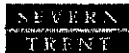
**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** SOP  
**Unit:** ng/L  
**QC Batch ID:** 6111597  
**Sample Aliquot:** 1032 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06040007  
**Lab Sample ID:** D6D180325-007  
**Lab WorkOrder:** H3JA91AA  
**Date/Time Collected:** 04/15/06 12:35  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**   
**Date/Time Extracted:** 04/22/06 08:00  
**Date/Time Analyzed:** 04/24/06 16:36  
**Instrument ID:** CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	96	20	150	

MW  
 5-9-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 1003 mL  
Dilution Factor: 1

Client Sample ID: 06040008  
Lab Sample ID: D6D180325-008  
Lab WorkOrder: H3JCD1AA  
Date/Time Collected: 04/15/06 12:50  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 17:00  
Instrument ID: CJMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	89	20	150	

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5406



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 991 mL  
Dilution Factor: 1

Client Sample ID: 06040009  
Lab Sample ID: D6D180325-009  
Lab WorkOrder: H3JCF1AA  
Date/Time Collected: 04/15/06 13:20  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 17:23  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	88	20	150	

MW  
59-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 1013 mL  
Dilution Factor: 1

Client Sample ID: 06040010  
Lab Sample ID: D6D180325-010  
Lab WorkOrder: H3JCG1AA  
Date/Time Collected: 04/15/06 13:55  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 18:10  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	2.6	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	100	20	150	

MW  
5-9-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 1013 mL  
Dilution Factor: 1

Client Sample ID: 06040011  
Lab Sample ID: D6D180325-011  
Lab WorkOrder: H3JC1AA  
Date/Time Collected: 04/15/06 14:40  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 18:34  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.50	0.36	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	95	20	150	

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**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

Lab Name: STL DENVER  
 Lot/SDG Number: D6D180325  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6111597  
 Sample Allquot: 1018 mL  
 Dilution Factor: 1

Client Sample ID: 06040012  
 Lab Sample ID: D6D180325-012  
 Lab WorkOrder: H3JCM1AA  
 Date/Time Collected: 04/15/06 15:10  
 Date/Time Received: 04/18/06 08:45  
 Date/Time Leached:   
 Date/Time Extracted: 04/22/06 08:00  
 Date/Time Analyzed: 04/24/06 18:57  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	91	20	150	

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5-9-06

Ecology and Environment, Inc.

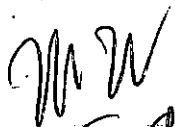
Analysis Data Sheet

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** SOP  
**Unit:** ng/L  
**QC Batch ID:** 6111597  
**Sample Aliquot:** 1025 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06040013  
**Lab Sample ID:** D6D180325-013  
**Lab WorkOrder:** H3JCN1AA  
**Date/Time Collected:** 04/15/06 15:30  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**   
**Date/Time Extracted:** 04/22/06 08:00  
**Date/Time Analyzed:** 04/24/06 19:21  
**Instrument ID:** CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.1	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	100	20	150	

  
 5-9-06

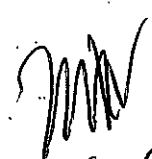
**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 965 mL  
Dilution Factor: 1

Client Sample ID: 06040014  
Lab Sample ID: D6D180325-014  
Lab WorkOrder: H3JCP1AA  
Date/Time Collected: 04/15/06 15:50  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 19:45  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	124	20	150	

  
5-9-06



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 1011 mL  
Dilution Factor: 1

Client Sample ID: 06040015  
Lab Sample ID: D6D180325-015  
Lab WorkOrder: H3JCR1AA  
Date/Time Collected: 04/15/06 16:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 20:08  
Instrument ID: CJMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	102	20	150	

*MW*  
*5-9-06*

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6111597  
Sample Aliquot: 1030 mL  
Dilution Factor: 1

Client Sample ID: 06040016  
Lab Sample ID: D6D180325-016  
Lab WorkOrder: H3JCV1AA  
Date/Time Collected: 04/15/06 16:20  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/22/06 08:00  
Date/Time Analyzed: 04/24/06 20:31  
Instrument ID: CJMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	109	20	150	

*MW*  
*5906*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6108265  
Sample Aliquot: 924 mL  
Dilution Factor: 1

Client Sample ID: 06040017  
Lab Sample ID: D6D180325-017  
Lab WorkOrder: H3JC01AA  
Date/Time Collected: 04/15/06 16:30  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/18/06 12:00  
Date/Time Analyzed: 04/24/06 13:04  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	92	20	150	

*MW*  
*5-9-06*





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6108265  
Sample Aliquot: 893 mL  
Dilution Factor: 1

Client Sample ID: 06040018  
Lab Sample ID: D6D180325-018  
Lab WorkOrder: H3JC11AA  
Date/Time Collected: 04/15/06 16:50  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/18/06 12:00  
Date/Time Analyzed: 04/24/06 13:27  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	UJ

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	9.0	20	150	*

*mw*  
*59-06*

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

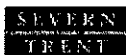
Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6108265  
Sample Aliquot: 907 mL  
Dilution Factor: 1

Client Sample ID: 06040019  
Lab Sample ID: D6D180325-019  
Lab WorkOrder: H3JC21AA  
Date/Time Collected: 04/15/06 00:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/18/06 12:00  
Date/Time Analyzed: 04/24/06 13:51  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	77	20	150	

MW  
5-9-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06040001  
Lab Sample ID: D6D180325-001  
Lab WorkOrder: H3JA21AC  
Date/Time Collected: 04/15/06 10:29  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 09:18  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.037	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

*mw*  
*5-9-06*



**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06040002  
Lab Sample ID: D6D180325-002  
Lab WorkOrder: H3JA41AC  
Date/Time Collected: 04/15/06 10:48  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 10:22  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.82	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

*MW*  
*5-9-06*

**Ecology and Environment, Inc.**

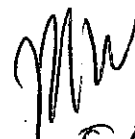
**Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6110264  
**Sample Aliquot:** 5 mL  
**Dilution Factor:** 5

**Client Sample ID:** 06040003  
**Lab Sample ID:** D6D180325-003  
**Lab WorkOrder:** H3JA51AC  
**Date/Time Collected:** 04/15/06 11:07  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**  
**Date/Time Extracted:** 04/20/06 10:05  
**Date/Time Analyzed:** 04/21/06 10:43  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.89	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

  
 5-9-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06040004  
Lab Sample ID: D6D180325-004  
Lab WorkOrder: H3JA61AC  
Date/Time Collected: 04/15/06 11:15  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 11:05  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.5	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
59-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

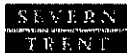
Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06040005  
Lab Sample ID: D6D180325-005  
Lab WorkOrder: H3JA71AC  
Date/Time Collected: 04/15/06 11:28  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 11:26  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

*W*  
5-9-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

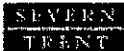
Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06040006  
Lab Sample ID: D6D180325-006  
Lab WorkOrder: H3JA81AC  
Date/Time Collected: 04/15/06 12:22  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 11:47  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
59-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 1

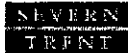
Client Sample ID: 06040007  
Lab Sample ID: D6D180325-007  
Lab WorkOrder: H3JA91AC  
Date/Time Collected: 04/15/06 12:35  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 12:30  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0078	0.0026	0.010	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06040008  
Lab Sample ID: D6D180325-008  
Lab WorkOrder: H3JCD1AC  
Date/Time Collected: 04/15/06 12:50  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 12:51  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.1	0.026	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06

**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

Lab Name: STL DENVER  
 Lot/SDG Number: D6D180325  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 6110264  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06040009  
 Lab Sample ID: D6D180325-009  
 Lab WorkOrder: H3JCF1AC  
 Date/Time Collected: 04/15/06 13:20  
 Date/Time Received: 04/18/06 08:45  
 Date/Time Leached:   
 Date/Time Extracted: 04/20/06 10:05  
 Date/Time Analyzed: 04/21/06 13:12  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06040010  
Lab Sample ID: D6D180325-010  
Lab WorkOrder: H3JCG1AC  
Date/Time Collected: 04/15/06 13:55  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 13:33  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.91	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

*mw*  
*5-9-06*





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06040011  
Lab Sample ID: D6D180325-011  
Lab WorkOrder: H3ICJ1AC  
Date/Time Collected: 04/15/06 14:40  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 13:55  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06


**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

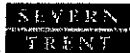
**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6110264  
**Sample Allquot:** 5 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06040012  
**Lab Sample ID:** D6D180325-012  
**Lab WorkOrder:** H3JCM1AC  
**Date/Time Collected:** 04/15/06 15:10  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**  
**Date/Time Extracted:** 04/20/06 10:05  
**Date/Time Analyzed:** 04/21/06 14:16  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.22	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

  
 5-9-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6D180325Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 6860Unit: ug/LQC Batch ID: 6110264Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06040013Lab Sample ID: D6D180325-013Lab WorkOrder: H3ICN1ACDate/Time Collected: 04/15/06 15:30Date/Time Received: 04/18/06 08:45

Date/Time Leached:

Date/Time Extracted: 04/20/06 10:05Date/Time Analyzed: 04/21/06 14:37Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.44	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

mw  
5-9-06



**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6110264  
**Sample Aliquot:** 5 mL  
**Dilution Factor:** 1

**Client Sample ID:** 06040014  
**Lab Sample ID:** D6D180325-014  
**Lab WorkOrder:** H3JCP1AC  
**Date/Time Collected:** 04/15/06 15:50  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**   
**Date/Time Extracted:** 04/20/06 10:05  
**Date/Time Analyzed:** 04/21/06 14:58  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.093	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06040015  
Lab Sample ID: D6D180325-015  
Lab WorkOrder: H3ICR1AC  
Date/Time Collected: 04/15/06 16:00  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 15:20  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.24	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6D180325  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6110264  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06040016  
Lab Sample ID: D6D180325-016  
Lab WorkOrder: H3JCV1AC  
Date/Time Collected: 04/15/06 16:20  
Date/Time Received: 04/18/06 08:45  
Date/Time Leached:   
Date/Time Extracted: 04/20/06 10:05  
Date/Time Analyzed: 04/21/06 15:41  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.48	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

*MW*  
*59-06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6D180325  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 6110264  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06040017  
 Lab Sample ID: D6D180325-017  
 Lab WorkOrder: H3JC01AC  
 Date/Time Collected: 04/15/06 16:30  
 Date/Time Received: 04/18/06 08:45  
 Date/Time Leached: \_\_\_\_\_  
 Date/Time Extracted: 04/20/06 10:05  
 Date/Time Analyzed: 04/21/06 16:23  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.97	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW  
5-9-06

**Ecology and Environment, Inc.**

**Analysis Data Sheet**

**Lab Name:** STL DENVER  
**Lot/SDG Number:** D6D180325  
**Matrix:** WATER  
**% Moisture:** N/A  
**Basis:** Wet  
**Analysis Method:** 6860  
**Unit:** ug/L  
**QC Batch ID:** 6110264  
**Sample Aliquot:** 5 mL  
**Dilution Factor:** 5

**Client Sample ID:** 06040018  
**Lab Sample ID:** D6D180325-018  
**Lab WorkOrder:** H3JC11AC  
**Date/Time Collected:** 04/15/06 16:50  
**Date/Time Received:** 04/18/06 08:45  
**Date/Time Leached:**   
**Date/Time Extracted:** 04/20/06 10:05  
**Date/Time Analyzed:** 04/21/06 16:45  
**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.7	0.013	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW 5-9-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet****Lab Name:** STL DENVER**Lot/SDG Number:** D6D180325**Matrix:** WATER**% Moisture:** N/A**Basis:** Wet**Analysis Method:** 6860**Unit:** ug/L**QC Batch ID:** 6110264**Sample Aliquot:** 5 mL**Dilution Factor:** 1**Client Sample ID:** 06040019**Lab Sample ID:** D6D180325-019**Lab WorkOrder:** H3JC21AC**Date/Time Collected:** 04/15/06 00:00**Date/Time Received:** 04/18/06 08:45**Date/Time Leached:****Date/Time Extracted:** 04/20/06 10:05**Date/Time Analyzed:** 04/21/06 17:06**Instrument ID:** LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.015	0.0026	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

MW 59-06





# ecology and environment, inc.

International Specialists in the Environment

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## MEMORANDUM

DATE: June 21, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington MW

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of 8 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06050901	06050902	06050903	06050904	06050905
06050906	06050907	06050911		

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on May 26, 2006, were extracted for NDMA analysis on May 27, 2006, were extracted for perchlorate analysis on May 31, 2006, and were analyzed for TCE on May 30, 2006, for NDMA on June 9 and 10, 2006, and for perchlorate on June 2, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate.

#### 2. Tuning (TCE analysis only): Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Acceptable.**

All SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) and Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Analysis: Satisfactory.**

MS, MSD, LCS, and LCSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the NDMA MS analysis with a high recovery. No action was taken as NDMA was not detected in any samples.

**8. Duplicate Analysis: Satisfactory.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits except the MS/MSD for NDMA due to the high MS recovery; no action was taken based on this discrepancy.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

## 12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050901  
Lab Sample ID: D6E270148-001  
Lab WorkOrder: H6C4M1AD  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 16:51  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	<u>U</u> 0.16	1.0	<u>Yme</u>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

MW 6-19-06

Form 1 Analysis Data Sheet Equivalent

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6E270148  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/l  
 QC Batch ID: 6151085  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06050902  
 Lab Sample ID: D6E270148-002  
 Lab WorkOrder: H6C5A1AD  
 Date/Time Collected: 05/26/06 00:00  
 Date/Time Received: 05/27/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 05/30/06 14:35  
 Date/Time Analyzed: 05/30/06 17:55  
 Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	<i>me</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

U Result is less than the method detection limit (MDL).

*MW 6-19-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050903  
Lab Sample ID: D6E270148-003  
Lab WorkOrder: H6C511AD  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 18:16  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	<i>[Signature]</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	85	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*MW 6/9-06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050904  
Lab Sample ID: D6E270148-004  
Lab WorkOrder: H6C5L1AD  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 18:38  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	U 0.16	1.0	<i>Sty</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	115	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050905  
Lab Sample ID: D6E270148-005  
Lab WorkOrder: H6C5P1AD  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 18:59  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	U 0.16	1.0	<i>sum</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	113	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

*MW 6-19-06*

Form 1 Analysis Data Sheet Equivalent

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wei  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050906  
Lab Sample ID: D6E270148-006  
Lab WorkOrder: H6C5Q1AD  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 19:20  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	U 0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	123	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	116	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MW 6/9/06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050907  
Lab Sample ID: D6E270148-007  
Lab WorkOrder: H6C5V1AD  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 19:41  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	U 0.16	1.0	<i>1.0</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	115	65	126	
2037-26-5	Toluene-d8	84	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

U Result is less than the method detection limit (MDL).

*MW 6-19-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6151085  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06050911  
Lab Sample ID: D6E270148-008  
Lab WorkOrder: H6C501AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/30/06 14:35  
Date/Time Analyzed: 05/30/06 20:02  
Instrument ID: G

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	U 0.16	1.0	<i>me</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	93	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

*MW 6/9/06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 999 mL  
Dilution Factor: 1

Client Sample ID: 06050901  
Lab Sample ID: D6E270148-001  
Lab WorkOrder: H6C4M2AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/09/06 23:23  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>Xhu</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	148	20	150	

U Result is less than the method detection limit (MDL).

*mw 6/9/06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 1021 mL  
Dilution Factor: 1

Client Sample ID: 06050902  
Lab Sample ID: D6E270148-002  
Lab WorkOrder: H6C5A2AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/10/06 00:58  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>MW</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	126	20	150	

U Result is less than the method detection limit (MDL).

*MW 6/9-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 1016 mL  
Dilution Factor: 1

Client Sample ID: 06050903  
Lab Sample ID: D6E270148-003  
Lab WorkOrder: H6C512AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/10/06 01:22  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>[Signature]</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	137	20	150	

U Result is less than the method detection limit (MDL).

*[Signature]* 6/19-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 993 mL  
Dilution Factor: 1

Client Sample ID: 06050904  
Lab Sample ID: D6E270148-004  
Lab WorkOrder: H6C5L2AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/10/06 01:45  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>hu</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	124	20	150	

U Result is less than the method detection limit (MDL).

*MW 6/9/06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 1030 mL  
Dilution Factor: 1

Client Sample ID: 06050905  
Lab Sample ID: D6E270148-005  
Lab WorkOrder: H6C5P2AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/10/06 02:09  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>[Signature]</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	117	20	150	

U Result is less than the method detection limit (MDL).

*[Signature]* 6/9-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 1015 mL  
Dilution Factor: 1

Client Sample ID: 06050906  
Lab Sample ID: D6E270148-006  
Lab WorkOrder: H6C5Q2AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/10/06 02:32  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>Ume</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	145	20	150	

U Result is less than the method detection limit (MDL).

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6147135  
Sample Aliquot: 1035 mL  
Dilution Factor: 1

Client Sample ID: 06050907  
Lab Sample ID: D6E270148-007  
Lab WorkOrder: H6C5V2AA  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/27/06 14:00  
Date/Time Analyzed: 06/10/06 02:56  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	U 0.36	1.0	<i>STL</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	121	20	150	

U Result is less than the method detection limit (MDL).



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6151523  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06050901  
Lab Sample ID: D6E270148-001  
Lab WorkOrder: H6C4M1AC  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/31/06 16:12  
Date/Time Analyzed: 06/02/06 11:30  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.051	0.026	0.10	<i>J</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*MW 6/9-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6151523  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06050902  
Lab Sample ID: D6E270148-002  
Lab WorkOrder: H6C5A1AC  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/31/06 16:12  
Date/Time Analyzed: 06/02/06 12:36  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.026	U 0.026	0.10	<i>mw</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw 6/9-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6151523  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06050903  
Lab Sample ID: D6E270148-003  
Lab WorkOrder: H6C5J1AC  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/31/06 16:12  
Date/Time Analyzed: 06/02/06 12:57  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.026	U 0.026	0.10	<i>U</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW 6/9-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6151523  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06050904  
Lab Sample ID: D6E270148-004  
Lab WorkOrder: H6C5L1AC  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/31/06 16:12  
Date/Time Analyzed: 06/02/06 13:18  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.69	0.026	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW 6/9/06*

Form 1 Analysis Data Sheet Equivalent

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6151523  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06050905  
Lab Sample ID: D6E270148-005  
Lab WorkOrder: H6C5P1AC  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/31/06 16:12  
Date/Time Analyzed: 06/02/06 13:39  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.065	0.026	0.10	<i>MW</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*MW 6/9/06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6E270148  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 6151523  
 Sample Aliquot: 5 mL  
 Dilution Factor: 10

Client Sample ID: 06050906  
 Lab Sample ID: D6E270148-006  
 Lab WorkOrder: H6C501AC  
 Date/Time Collected: 05/26/06 00:00  
 Date/Time Received: 05/27/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 05/31/06 16:12  
 Date/Time Analyzed: 06/02/06 14:01  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.026	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW 6/9-06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6E270148  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 6151523  
Sample Aliquot: 5 mL  
Dilution Factor: 100

Client Sample ID: 06050907  
Lab Sample ID: D6E270148-007  
Lab WorkOrder: H6C5VIAC  
Date/Time Collected: 05/26/06 00:00  
Date/Time Received: 05/27/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 05/31/06 16:12  
Date/Time Analyzed: 06/02/06 14:22  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	3.2	0.26	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW 6/9-06



# ecology and environment, inc.

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## MEMORANDUM

DATE: July 31, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of 30 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06060901	06060902	06060903	06060904	06060905
06060906	06060907	06060908	06060909	06060910
06060911	06060912	06060913	06060914	06060915
06060916	06060917	06060918	06060919	06060920
06060921	06060922	06060923	06060924	06060925
06060926	06060927	06060928	06060929	06060930

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on June 22 and 23, 2006, were extracted for NDMA analysis between June 26 and July 5, 2006, were extracted for perchlorate analysis on June 30, 2006, and were analyzed for TCE on June 28, 2006, for NDMA between June 29 and July 10, 2006, and for perchlorate between July 3 and 5, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate.

#### 2. Tuning (TCE analysis only): Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix except for NDMA samples 06060913, 06060914, 06060915, and 06060926; these samples were reextracted and reanalyzed but the system monitoring compound was not added to the associated blank, so the original analyses were reported. No action was taken based on this discrepancy as NDMA was not detected in the original analysis of these samples. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Acceptable.**

All SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) and Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Analysis: Satisfactory.**

MS, MSD, LCS, and LCSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the NDMA spike analyses associated with sample 06060919, 06060920, and 06060921 (the spike had a high recovery and the samples did not have NDMA detections, therefore no action was taken) and the NDMA spike analyses associated with samples 06060905, 06060907, 06060908, 06060909, 06060911, and 06060912 (associated positive sample results were qualified as estimated quantities [J]).

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.



**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6180064  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06060901  
 Lab Sample ID: D6F240209-001  
 Lab WorkOrder: H77A51AA  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/28/06 08:39  
 Date/Time Analyzed: 06/28/06 11:29  
 Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	4.3	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	95	65	126	
2037-26-5	Toluene-d8	116	78	118	
1868-53-7	Dibromofluoromethane	96	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*73006*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 7.5 mL  
Dilution Factor: 2.66

Client Sample ID: 06060902  
Lab Sample ID: D6F240209-002  
Lab WorkOrder: H77A61AA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 12:26  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	130	0.43	2.7	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	100	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	98	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-20-06*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 4 mL  
Dilution Factor: 5

Client Sample ID: 06060903  
Lab Sample ID: D6F240209-003  
Lab WorkOrder: H77A71AA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 12:44  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	210	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	98	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	99	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*7-30-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6180064Sample Aliquot: 7.5 mLDilution Factor: 2.66Client Sample ID: 06060904Lab Sample ID: D6F240209-004Lab WorkOrder: H77A81AADate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 08:39Date/Time Analyzed: 06/28/06 13:03Instrument ID: RI

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	150	0.43	2.7	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	99	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	98	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

mm  
730-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6180064Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06060907Lab Sample ID: D6F240209-006Lab WorkOrder: H77CC1ADDate/Time Collected: 06/23/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 08:39Date/Time Analyzed: 06/28/06 13:22Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	19	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

MW  
73006



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6180064  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06060908  
 Lab Sample ID: D6F240209-007  
 Lab WorkOrder: H77CE1AD  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/28/06 08:39  
 Date/Time Analyzed: 06/28/06 13:41  
 Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
7/30/06

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180065  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060913  
Lab Sample ID: D6F240209-026  
Lab WorkOrder: H77DP1AD  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 07:52  
Date/Time Analyzed: 06/28/06 17:00  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	111	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060914  
Lab Sample ID: D6F240209-011  
Lab WorkOrder: H77CJ1AD  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 14:00  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060915  
Lab Sample ID: D6F240209-012  
Lab WorkOrder: H77CK1AD  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 14:19  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MW  
7/30/06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6180064  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06060918  
 Lab Sample ID: D6F240209-013  
 Lab WorkOrder: H77CL1AD  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/28/06 08:39  
 Date/Time Analyzed: 06/28/06 14:38  
 Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	100	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*73006*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060919  
Lab Sample ID: D6F240209-014  
Lab WorkOrder: H77CM1AD  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 14:57  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	100	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-28-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060920  
Lab Sample ID: D6F240209-015  
Lab WorkOrder: H77CN1AD  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 15:15  
Instrument ID: RL

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	101	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*730-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

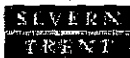
Client Sample ID: 06060921  
Lab Sample ID: D6F240209-016  
Lab WorkOrder: H77CP1AD  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 15:34  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	111	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MW  
7-30-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060922  
Lab Sample ID: D6F240209-017  
Lab WorkOrder: H77CQ1AD  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 15:53  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	99	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

*MPW*  
*7-30-06*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6180064Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06060923Lab Sample ID: D6F240209-018Lab WorkOrder: H77CR1ADDate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 08:39Date/Time Analyzed: 06/28/06 16:12Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	96	79	119	
460-00-4	4-Bromofluorobenzene	101	75	115	

U Result is less than the method detection limit (MDL).

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6180064  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06060924  
 Lab Sample ID: D6F240209-019  
 Lab WorkOrder: H77CT1AD  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/28/06 08:39  
 Date/Time Analyzed: 06/28/06 16:31  
 Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	100	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
7-28-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6180064Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06060925Lab Sample ID: D6F240209-020Lab WorkOrder: H77CV1ADDate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 08:39Date/Time Analyzed: 06/28/06 16:49Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

MM  
7-30-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060926  
Lab Sample ID: D6F240209-021  
Lab WorkOrder: H77CW1AD  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 17:08  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	111	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*730-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180064  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060927  
Lab Sample ID: D6F240209-022  
Lab WorkOrder: H77CX1AD  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 08:39  
Date/Time Analyzed: 06/28/06 17:27  
Instrument ID: R1

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6180065  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060928  
Lab Sample ID: D6F240209-023  
Lab WorkOrder: H77C01AD  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 07:52  
Date/Time Analyzed: 06/28/06 16:05  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	112	75	115	

U Result is less than the method detection limit (MDL).

MW  
7-30-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6180065  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06060929  
 Lab Sample ID: D6F240209-024  
 Lab WorkOrder: H77C11AA  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/28/06 07:52  
 Date/Time Analyzed: 06/28/06 16:23  
 Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	105	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	112	75	115	

U Result is less than the method detection limit (MDL).

MM  
730-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6180065Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06060930Lab Sample ID: D6F240209-025Lab WorkOrder: H77C31AADate/Time Collected: 06/23/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 07:52Date/Time Analyzed: 06/28/06 16:42Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	103	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	102	75	115	

U Result is less than the method detection limit (MDL).

MW  
730-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6177638  
Sample Aliquot: 1045 mL  
Dilution Factor: 1

Client Sample ID: 06060905  
Lab Sample ID: D6F240209-005  
Lab WorkOrder: H77CA1AA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/26/06 19:00  
Date/Time Analyzed: 06/30/06 08:57  
Instrument ID: CIMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	64	20	150	

U Result is less than the method detection limit (MDL).

*mm*  
*7-30-06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6177638  
 Sample Aliquot: 958 mL  
 Dilution Factor: 1

Client Sample ID: 06060907  
 Lab Sample ID: D6F240209-006  
 Lab WorkOrder: H77CC1AA  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/26/06 19:00  
 Date/Time Analyzed: 06/30/06 10:09  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	50	20	150	

U Result is less than the method detection limit (MDL).

MW  
7-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6177638Sample Aliquot: 1006 mLDilution Factor: 1Client Sample ID: 06060908Lab Sample ID: D6F240209-007Lab WorkOrder: H77CE1AADate/Time Collected: 06/23/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/26/06 19:00Date/Time Analyzed: 06/30/06 10:33Instrument ID: CJMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	43	20	150	

U Result is less than the method detection limit (MDL).

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6177638  
 Sample Aliquot: 1036 mL  
 Dilution Factor: 1

Client Sample ID: 06060909  
 Lab Sample ID: D6F240209-008  
 Lab WorkOrder: H77CF1AA  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/26/06 19:00  
 Date/Time Analyzed: 06/30/06 10:57  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc:	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.3	0.36	1.0	

CAS No.	Sarrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	49	20	150	

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6177638  
Sample Aliquot: 994 mL  
Dilution Factor: 1

Client Sample ID: 06060911  
Lab Sample ID: D6F240209-009  
Lab WorkOrder: H77CG1AA  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/26/06 19:00  
Date/Time Analyzed: 06/30/06 11:21  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	7.1 <i>J</i>	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	39	20	150	

U Result is less than the method detection limit (MDL).

*MW*  
*73006*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6177638  
Sample Aliquot: 971 mL  
Dilution Factor: 1

Client Sample ID: 06060912  
Lab Sample ID: D6F240209-010  
Lab WorkOrder: H77CH1AA  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/26/06 19:00  
Date/Time Analyzed: 06/30/06 11:45  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	43	20	150	

U Result is less than the method detection limit (MDL).

MW  
7/30/06

## Ecology and Environment, Inc.

## Analysis Data Sheet


Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6180572  
Sample Allquot: 985 mL  
Dilution Factor: 1

Client Sample ID: 06060913  
Lab Sample ID: D6F240209-026  
Lab WorkOrder: H77DP1AA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/29/06 19:00  
Date/Time Analyzed: 07/05/06 18:28  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	67	20	150	

U Result is less than the method detection limit (MDL).

  
73006

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6180572  
 Sample Aliquot: 987 mL  
 Dilution Factor: 1

Client Sample ID: 06060914  
 Lab Sample ID: D6F240209-011  
 Lab WorkOrder: H77CJ1AA  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/29/06 19:00  
 Date/Time Analyzed: 07/05/06 17:16  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	43	20	150	

U Result is less than the method detection limit (MDL).

MW  
7-30-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6180572  
 Sample Aliquot: 931 mL  
 Dilution Factor: 1

Client Sample ID: 06060915  
 Lab Sample ID: D6F240209-012  
 Lab WorkOrder: H77CK1AA  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/29/06 19:00  
 Date/Time Analyzed: 07/05/06 17:40  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	49	20	150	

U Result is less than the method detection limit (MDL).

*Mm*  
*7-20-06*



Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6181554Sample Aliquot: 1039 mLDilution Factor: 1Client Sample ID: 06060918Lab Sample ID: D6F240209-013Lab WorkOrder: H77CL1AADate/Time Collected: 06/23/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/30/06 15:40Date/Time Analyzed: 07/05/06 20:26Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	56	20	150	

U Result is less than the method detection limit (MDL).

MW  
7/30/06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6178572Sample Aliquot: 1021 mLDilution Factor: 1Client Sample ID: 06060919Lab Sample ID: D6F240209-014Lab WorkOrder: H77CM1AADate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/27/06 19:00Date/Time Analyzed: 06/29/06 10:52Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	60	20	150	

U Result is less than the method detection limit (MDL).

mw  
7-30-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6178572Sample Aliquot: 1023 mLDilution Factor: 1Client Sample ID: 06060920Lab Sample ID: D6F240209-015Lab WorkOrder: H77CN1AADate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00


Date/Time Leached:

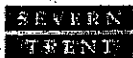
Date/Time Extracted: 06/27/06 19:00Date/Time Analyzed: 06/29/06 11:19Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	40	20	150	

U Result is less than the method detection limit (MDL).

  
7-30-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6178572  
Sample Aliquot: 1026 mL  
Dilution Factor: 1

Client Sample ID: 06060921  
Lab Sample ID: D6F240209-016  
Lab WorkOrder: H77CP1AA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/27/06 19:00  
Date/Time Analyzed: 06/29/06 11:45  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	44	20	150	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*



Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6179584Sample Aliquot: 1024 mLDilution Factor: 1Client Sample ID: 06060922Lab Sample ID: D6F240209-017Lab WorkOrder: H77CQ1AADate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 17:00Date/Time Analyzed: 07/05/06 13:42Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	64	20	150	

U Result is less than the method detection limit (MDL).

mw  
7/3/06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6179584Sample Aliquot: 1033 mLDilution Factor: 1Client Sample ID: 06060923Lab Sample ID: D6F240209-018Lab WorkOrder: H77CR1AADate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 17:00Date/Time Analyzed: 07/05/06 14:06Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	58	20	150	

U Result is less than the method detection limit (MDL).

MW  
73006

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6179584  
Sample Aliquot: 1031 mL  
Dilution Factor: 1

Client Sample ID: 06060924  
Lab Sample ID: D6F240209-019  
Lab WorkOrder: H77CTIAA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/28/06 17:00  
Date/Time Analyzed: 07/05/06 14:29  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.69	0.36	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	62	20	150	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

MW  
7-30-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F240209

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: SOP

Unit: ng/L

QC Batch ID: 6179584

Sample Aliquot: 1035 mL

Dilution Factor: 1

Client Sample ID: 06060925

Lab Sample ID: D6F240209-020

Lab WorkOrder: H77CV1AA

Date/Time Collected: 06/22/06 00:00

Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/28/06 17:00

Date/Time Analyzed: 07/05/06 14:53

Instrument ID: CMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.81	0.36	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	61	20	150	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

MW  
7-30-06



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6180572  
Sample Aliquot: 1046 mL  
Dilution Factor: 1

Client Sample ID: 06060926  
Lab Sample ID: D6F240209-021  
Lab WorkOrder: H77CW1AA  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/29/06 19:00  
Date/Time Analyzed: 07/05/06 18:04  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	51	20	150	

U Result is less than the method detection limit (MDL).

*mm*  
*7-29-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6181554  
Sample Aliquot: 1027 mL  
Dilution Factor: 1

Client Sample ID: 06060927  
Lab Sample ID: D6F240209-022  
Lab WorkOrder: H77CX1AA  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 15:40  
Date/Time Analyzed: 07/05/06 20:50  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	66	20	150	

U Result is less than the method detection limit (MDL).

MW  
7-30-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6181554  
Sample Aliquot: 967 mL  
Dilution Factor: 1

Client Sample ID: 06060928  
Lab Sample ID: D6F240209-023  
Lab WorkOrder: H77C01AA  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 15:40  
Date/Time Analyzed: 07/05/06 21:13  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	2.3	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	75	20	150	

U Result is less than the method detection limit (MDL).

*MW*  
*730-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 10

Client Sample ID: 06060905  
 Lab Sample ID: D6F240209-005  
 Lab WorkOrder: H77CA1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/05/06 11:05  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/30/06*



Ecology and Environment, Inc.

## Analysis Data Sheet

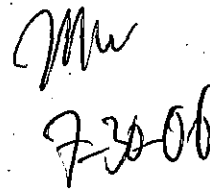
Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060907  
Lab Sample ID: D6F240209-006  
Lab WorkOrder: H77CC1AC  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/03/06 18:14  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060908  
Lab Sample ID: D6F240209-007  
Lab WorkOrder: H77CE1AC  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/03/06 18:38  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mu*  
*7-30-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6181465Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06060909Lab Sample ID: D6F240209-008Lab WorkOrder: H77CF1ACDate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/30/06 13:47Date/Time Analyzed: 07/03/06 19:02Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.56	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
73006

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060911  
Lab Sample ID: D6F240209-009  
Lab WorkOrder: H77CG1AC  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/03/06 19:51  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
73006



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060912  
Lab Sample ID: D6F240209-010  
Lab WorkOrder: H77CH1AC  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/03/06 20:15  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.21	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-3-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060913  
Lab Sample ID: D6F240209-026  
Lab WorkOrder: H77DP1AC  
Date/Time Collected: 06/22/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/04/06 02:19  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.80	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MC  
7-30-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6181465Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06060914Lab Sample ID: D6F240209-011Lab WorkOrder: H77CJ1ACDate/Time Collected: 06/23/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/30/06 13:47Date/Time Analyzed: 07/03/06 20:39Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.83	0.0052	0.050	

CAS No.	Surrogate	% Rec.	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mm  
7-30-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060915  
Lab Sample ID: D6F240209-012  
Lab WorkOrder: H77CK1AC  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/03/06 21:04  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.77	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*730-06*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6181465Sample Aliquot: 5 mLDilution Factor: 10Client Sample ID: 06060918Lab Sample ID: D6F240209-013Lab WorkOrder: H77CL1ACDate/Time Collected: 06/23/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/30/06 13:47Date/Time Analyzed: 07/03/06 21:28Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6181465Sample Aliquot: 5 mLDilution Factor: 10Client Sample ID: 06060919Lab Sample ID: D6F240209-014Lab WorkOrder: H77CM1ACDate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/30/06 13:47Date/Time Analyzed: 07/03/06 21:52Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.90	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-30-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06060920  
 Lab Sample ID: D6F240209-015  
 Lab WorkOrder: H77CN1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/03/06 22:16  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0010	0.0010	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MM*  
*7-30-06*

**STL**

Ecology and Environment, Inc.

Analysis Data SheetLab Name: STL DENVERLot/SDG Number: D6F240209Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6181465Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06060921Lab Sample ID: D6F240209-016Lab WorkOrder: H77CP1ACDate/Time Collected: 06/22/06 00:00Date/Time Received: 06/24/06 09:00

Date/Time Leached:

Date/Time Extracted: 06/30/06 13:47Date/Time Analyzed: 07/03/06 22:41Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.016	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06060922  
 Lab Sample ID: D6F240209-017  
 Lab WorkOrder: H77CQ1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/05/06 12:18  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.51	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06060923  
 Lab Sample ID: D6F240209-018  
 Lab WorkOrder: H77CR1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/03/06 23:53  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.24	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-30-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06060924  
 Lab Sample ID: D6F240209-019  
 Lab WorkOrder: H77CT1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/04/06 00:18  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.71	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06060925  
 Lab Sample ID: D6F240209-020  
 Lab WorkOrder: H77CV1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/04/06 00:42  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.70	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 06060926  
 Lab Sample ID: D6F240209-021  
 Lab WorkOrder: H77CW1AC  
 Date/Time Collected: 06/22/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/04/06 01:06  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.71	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F240209  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6181465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 10

Client Sample ID: 06060927  
 Lab Sample ID: D6F240209-022  
 Lab WorkOrder: H77CX1AC  
 Date/Time Collected: 06/23/06 00:00  
 Date/Time Received: 06/24/06 09:00  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 13:47  
 Date/Time Analyzed: 07/04/06 01:30  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.78	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-30-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F240209  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6181465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060928  
Lab Sample ID: D6F240209-023  
Lab WorkOrder: H77C01AC  
Date/Time Collected: 06/23/06 00:00  
Date/Time Received: 06/24/06 09:00  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 13:47  
Date/Time Analyzed: 07/04/06 01:55  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.028	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW 73006*



# ecology and environment, inc.

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## MEMORANDUM

DATE: August 1, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of 30 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06060801	06060802	06060803	06060804	06060805
06060806	06060807	06060808	06060809	06060810
06060811	06060812	06060813	06060814	06060815
06060816	06060817	06060818	06060819	06060820
06060821	06060822	06060823	06060824	06060825
06060826	06060827	06060828	06060829	06060830

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were generally maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , with sample coolers received at  $0.5^{\circ}\text{C}$ ,  $0.7^{\circ}\text{C}$ ,  $2.9^{\circ}\text{C}$ ,  $3.8^{\circ}\text{C}$ ,  $4.0^{\circ}\text{C}$ , and  $4.3^{\circ}\text{C}$ ; no action was taken based on the sample coolers measured below  $2.0^{\circ}\text{C}$ . The samples were collected on June 26, 2006, were extracted for NDMA analysis between July 1 and 3, 2006, were extracted for perchlorate analysis on July 6, 2006, and were analyzed for TCE between June 30 and July 3, 2006, for NDMA between July 7 and 10, 2006, and for perchlorate between July 6 and 8, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate.



**2. Tuning (TCE analysis only): Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Satisfactory.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank except in the NDMA blank associated with the reextraction and reanalysis of sample 06060813 at 0.0019 micrograms per liter; the NDMA result in sample 06060813 was qualified as not detected (U).

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Satisfactory.**

All applicable SMC recoveries were within QC limits except (1) the slightly low recovery of NDMA-d6 (an internal standard reported as a SMC) in the NDMA method blank associated with samples 06060801 through 06060816 and 06060818 through 06060821. No action was taken based on this slight outlier. The laboratory reported that the vial was on its side in the sample refrigerator prior to analysis; it is believed that this may have contributed to the slightly low recovery; and (2) the TCE SMC dibromofluoromethane had slightly high recoveries in samples 06060823, 06060825, 06060826, 06060829, and 06060830. No action was taken based on these slight outliers as TCE was not detected in these samples.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) and Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Analysis: Satisfactory.**

MS, MSD, LCS, and LCSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the perchlorate MS and MSD results associated with sample 06060816 with high recoveries. The perchlorate result in sample 06060816 was qualified as an estimated quantity (J).

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060801  
Lab Sample ID: D6F270263-001  
Lab WorkOrder: H8AN01AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 09:24  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	92	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	97	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*Jan*  
*7-3-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060802  
Lab Sample ID: D6F270263-002  
Lab WorkOrder: H8AN21AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 09:43  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	95	65	126	
2037-26-5	Toluene-d8	105	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	104	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060803  
Lab Sample ID: D6F270263-003  
Lab WorkOrder: HEAN31AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 10:01  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	100	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	111	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

MW  
7/3/06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060804  
Lab Sample ID: D6F270263-004  
Lab WorkOrder: H8AN41AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 10:19  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	99	65	126	
2037-26-5	Toluene-d8	107	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	106	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*7-31-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060805  
Lab Sample ID: D6F270263-005  
Lab WorkOrder: H8AN51AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 10:38  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	98	65	126	
2037-26-5	Toluene-d8	111	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	106	75	115	

U Result is less than the method detection limit (MDL).

mw  
7/4/06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060806  
Lab Sample ID: D6F270263-006  
Lab WorkOrder: H8AN61AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 10:56  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Snrrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	114	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	105	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7-31-06



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

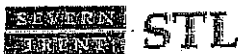
Client Sample ID: 06060807  
Lab Sample ID: D6F270263-007  
Lab WorkOrder: H8AN71AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 11:15  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	96	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7/3/06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060808  
Lab Sample ID: D6F270263-008  
Lab WorkOrder: H8AN81AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 11:34  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	101	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	103	75	115	

U Result is less than the method detection limit (MDL).

*me*  
7/3/06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

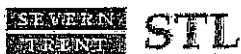
Client Sample ID: 06060809  
Lab Sample ID: D6F270263-009  
Lab WorkOrder: H8APA1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 11:52  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	92	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*7-31-06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060810  
Lab Sample ID: D6F270263-010  
Lab WorkOrder: H8APC1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 12:11  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	111	79	119	
460-00-4	4-Bromofluorobenzene	106	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*7-31-06*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F270263Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6184033Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06060811Lab Sample ID: D6F270263-011Lab WorkOrder: H8APD1ADDate/Time Collected: 06/26/06 00:00Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 06/30/06 08:00Date/Time Analyzed: 06/30/06 12:30Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	103	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	104	75	115	

U Result is less than the method detection limit (MDL).

MW  
7-31-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060812  
Lab Sample ID: D6F270263-012  
Lab WorkOrder: H8APE1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 12:48  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	107	79	119	
460-00-4	4-Bromofluorobenzene	105	75	115	

U Result is less than the method detection limit (MDL).

*Mu*  
7/31-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6F270263  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6184033  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06060813  
 Lab Sample ID: D6F270263-013  
 Lab WorkOrder: H8APF1AD  
 Date/Time Collected: 06/26/06 00:00  
 Date/Time Received: 06/27/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 06/30/06 08:00  
 Date/Time Analyzed: 06/30/06 13:07  
 Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	125	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	100	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 4 mL  
Dilution Factor: 5

Client Sample ID: 06060814  
Lab Sample ID: D6F270263-014  
Lab WorkOrder: H8APH1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 13:25  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	150	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	113	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	117	79	119	
460-00-4	4-Bromofluorobenzene	104	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*7-31-06*





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060815  
Lab Sample ID: D6F270263-015  
Lab WorkOrder: H8APJ1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 13:44  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	105	78	118	
1868-53-7	Dibromofluoromethane	107	79	119	
460-00-4	4-Bromofluorobenzene	106	75	115	

U Result is less than the method detection limit (MDL).

MW  
7-31-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060816  
Lab Sample ID: D6F270263-016  
Lab WorkOrder: H8APK1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 14:03  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	100	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
7/3/06

**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6186066  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060817  
Lab Sample ID: D6F270263-017  
Lab WorkOrder: H8APLIAD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/03/06 06:38  
Date/Time Analyzed: 07/03/06 08:02  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	95	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	100	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: S260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060818  
Lab Sample ID: D6F270263-018  
Lab WorkOrder: H8APN1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 14:59  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	97	78	118	
1868-53-7	Dibromofluoromethane	107	79	119	
460-00-4	4-Bromofluorobenzene	101	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7-31-06





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060819  
Lab Sample ID: D6F270263-019  
Lab WorkOrder: H8APP1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 15:18  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	111	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*7-3-06*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060820  
Lab Sample ID: D6F270263-020  
Lab WorkOrder: H8APQ1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 15:36  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	107	79	119	
460-00-4	4-Bromofluorobenzene	103	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7/3/06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6184033  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060821  
Lab Sample ID: D6F270263-021  
Lab WorkOrder: H8APRIAD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 08:00  
Date/Time Analyzed: 06/30/06 15:55  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	111	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	111	75	115	

U Result is less than the method detection limit (MDL).

MW  
7-31-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060822  
Lab Sample ID: D6F270263-022  
Lab WorkOrder: H8APT1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 14:31  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	116	79	119	
460-00-4	4-Bromofluorobenzene	84	75	115	

U Result is less than the method detection limit (MDL).

MW  
7-31-06





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060823  
Lab Sample ID: D6F270263-023  
Lab WorkOrder: H8APV1AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 14:52  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethene-d4	114	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	120	79	119	*
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

*Mu*  
*7/3/06*

**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F270263Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6181474Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06060824Lab Sample ID: D6F270263-024Lab WorkOrder: H8APW1ADDate/Time Collected: 06/26/06 00:00Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 06/30/06 10:50Date/Time Analyzed: 06/30/06 15:12Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	118	79	119	
460-00-4	4-Bromofluorobenzene	84	75	115	

U Result is less than the method detection limit (MDL).

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060825  
Lab Sample ID: D6F270263-025  
Lab WorkOrder: H8APXIAD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 15:32  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	117	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	123	79	119	*
460-00-4	4-Bromofluorobenzene	84	75	115	

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
7-306

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060826  
Lab Sample ID: D6F270263-026  
Lab WorkOrder: H8AP01AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 15:52  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	119	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	122	79	119	*
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

*MW*  
*7/31/06*





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060827  
Lab Sample ID: D6F270263-027  
Lab WorkOrder: H8AP21AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 16:13  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	118	65	126	
2037-26-5	Toluene-d8	108	78	118	
1868-53-7	Dibromofluoromethane	119	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

MV  
7-31-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060828  
Lab Sample ID: D6F270263-028  
Lab WorkOrder: H8AP31AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 16:33  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	118	65	126	
2037-26-5	Toluene-d8	107	78	118	
1868-53-7	Dibromofluoromethane	119	79	119	
460-00-4	4-Bromofluorobenzene	81	75	115	

U Result is less than the method detection limit (MDL).

MW  
7/31/06



STL

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060829  
Lab Sample ID: D6F270263-029  
Lab WorkOrder: H8AP41AD  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 16:53  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	124	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	125	79	119	*
460-00-4	4-Bromofluorobenzene	85	75	115	

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
7-31-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6181474  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06060830  
Lab Sample ID: D6F270263-030  
Lab WorkOrder: H8AP71AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 06/30/06 10:50  
Date/Time Analyzed: 06/30/06 17:13  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	113	65	126	
2037-26-5	Toluene-d8	105	78	118	
1868-53-7	Dibromofluoromethane	122	79	119	*
460-00-4	4-Bromofluorobenzene	84	75	115	

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
7-31-06





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1025 mL  
Dilution Factor: 1

Client Sample ID: 06060801  
Lab Sample ID: D6F270263-001  
Lab WorkOrder: H8AN01AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 18:19  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.9	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	73	18	142	

U Result is less than the method detection limit (MDL).

MW  
7-21-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1032 mL  
Dilution Factor: 1

Client Sample ID: 06060802  
Lab Sample ID: D6F270263-002  
Lab WorkOrder: H8AN21AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 18:43  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.2	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	103	18	142	

U Result is less than the method detection limit (MDL).

MW  
7/9/06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1029 mL  
Dilution Factor: 1

Client Sample ID: 06060803  
Lab Sample ID: D6F270263-003  
Lab WorkOrder: H8AN31AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 19:07  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	90	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7/31/06*

**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F270263Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6182041Sample Aliquot: 1011 mLDilution Factor: 1Client Sample ID: 06060804Lab Sample ID: D6F270263-004Lab WorkOrder: H8AN41AADate/Time Collected: 06/26/06 00:00Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/01/06 14:00Date/Time Analyzed: 07/07/06 19:30Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.5	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	94	18	142	

U Result is less than the method detection limit (MDL).



**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1032 mL  
Dilution Factor: 1

Client Sample ID: 06060805  
Lab Sample ID: D6F270263-005  
Lab WorkOrder: H8AN51AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/10/06 12:14  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.85	J 0.36	1.0	<i>[Signature]</i>

CAS No.	Surrogate	% Rec.	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	66	18	142	

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*[Signature]*  
7/31/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1013 mL  
Dilution Factor: 1

Client Sample ID: 06060806  
Lab Sample ID: D6F270263-006  
Lab WorkOrder: H8AN61AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 20:18  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.1	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	100	18	142	

U Result is less than the method detection limit (MDL).

*mm*  
*7/3/06*

**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 985 mL  
Dilution Factor: 1

Client Sample ID: 06060807  
Lab Sample ID: D6F270263-007  
Lab WorkOrder: H8AN71AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 21:05  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.4	0.36	1.0	

CAS No.	Surrogate	% Rec.	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	136	18	142	

U Result is less than the method detection limit (MDL).

MW  
7/31/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 998 mL  
Dilution Factor: 1

Client Sample ID: 06060808  
Lab Sample ID: D6F270263-008  
Lab WorkOrder: H8AN81AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 21:29  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	2.3	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	94	18	142	

U Result is less than the method detection limit (MDL).

*mm*  
7/3/06





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1007 mL  
Dilution Factor: 1

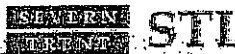
Client Sample ID: 06060809  
Lab Sample ID: D6F270263-009  
Lab WorkOrder: H8APA1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 21:53  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	4.7	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	106	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*7-9-06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1017 mL  
Dilution Factor: 1

Client Sample ID: 06060810  
Lab Sample ID: D6F270263-010  
Lab WorkOrder: H8APC1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 22:17  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	6.5	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	127	18	142	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7/31/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1012 mL  
Dilution Factor: 1

Client Sample ID: 06060811  
Lab Sample ID: D6F270263-011  
Lab WorkOrder: H8APD1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 22:40  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	87	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7/2/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1017 mL  
Dilution Factor: 1

Client Sample ID: 06060812  
Lab Sample ID: D6F270263-012  
Lab WorkOrder: H8APE1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 23:04  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.2	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	70	18	142	

U Result is less than the method detection limit (MDL).

MW  
7-3706





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6184067  
Sample Aliquot: 1028 mL  
Dilution Factor: 1

Client Sample ID: 06060813  
Lab Sample ID: D6F270263-013  
Lab WorkOrder: H8APF2AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/03/06 14:00  
Date/Time Analyzed: 07/07/06 14:19  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.4	U 0.36	1.0	<i>[Signature]</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	54	18	142	

- U Result is less than the method detection limit (MDL).  
B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

*[Signature]*  
7-31-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1024 mL  
Dilution Factor: 1

Client Sample ID: 06060814  
Lab Sample ID: D6F270263-014  
Lab WorkOrder: H8APH1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/07/06 23:51  
Instrument ID: CMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	5.2	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	88	18	142	

U Result is less than the method detection limit (MDL).

MW  
7-31-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1028 mL  
Dilution Factor: 1

Client Sample ID: 06060815  
Lab Sample ID: D6F270263-015  
Lab WorkOrder: H8APJ1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/08/06 00:39  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.3	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	101	18	142	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7-31-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1018 mL  
Dilution Factor: 1

Client Sample ID: 06060816  
Lab Sample ID: D6F270263-016  
Lab WorkOrder: H8APK1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/08/06 01:02  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.4	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	69	18	142	

U Result is less than the method detection limit (MDL).

MW  
7-27-06





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1025 mL  
Dilution Factor: 1

Client Sample ID: 06060817  
Lab Sample ID: D6F270263-017  
Lab WorkOrder: H8APL1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:  
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/10/06 13:49  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.4	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	43	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*7/31/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: SOP

Unit: ng/L

QC Batch ID: 6182041

Sample Aliquot: 1027 mL

Dilution Factor: 1

Client Sample ID: 06060818

Lab Sample ID: D6F270263-018

Lab WorkOrder: H8APN1AA

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/01/06 14:00

Date/Time Analyzed: 07/08/06 02:14

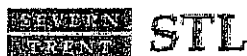
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.3	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	99	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 993 mL  
Dilution Factor: 1

Client Sample ID: 06060819  
Lab Sample ID: D6F270263-019  
Lab WorkOrder: H8APP1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/10/06 17:24  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.6	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	58	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*7/3/06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1011 mL  
Dilution Factor: 1

Client Sample ID: 06060820  
Lab Sample ID: D6F270263-020  
Lab WorkOrder: H8AP01AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/10/06 13:02  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	132	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7-3-06*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6182041  
Sample Aliquot: 1029 mL  
Dilution Factor: 1

Client Sample ID: 06060821  
Lab Sample ID: D6F270263-021  
Lab WorkOrder: H8APR1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/01/06 14:00  
Date/Time Analyzed: 07/08/06 03:25  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.5	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	94	18	142	

U Result is less than the method detection limit (MDL).

mm  
7-31-06

**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1032 mL  
Dilution Factor: 1

Client Sample ID: 06060822  
Lab Sample ID: D6F270263-022  
Lab WorkOrder: H8APT1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:  
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/08/06 06:10  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	L6	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	71	18	142	

U Result is less than the method detection limit (MDL).

MW  
7/31/06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: SOP

Unit: ng/L

QC Batch ID: 6183024

Sample Aliquot: 1051 mL

Dilution Factor: 1

Client Sample ID: 06060823

Lab Sample ID: D6F270263-023

Lab WorkOrder: H8APV1AA

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/02/06 14:30

Date/Time Analyzed: 07/08/06 06:34

Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.0	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	75	18	142	

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7-31-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1002 mL  
Dilution Factor: 1

Client Sample ID: 06060824  
Lab Sample ID: D6F270263-024  
Lab WorkOrder: H8APW1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/08/06 07:21  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	6.2	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	59	18	142	

U Result is less than the method detection limit (MDL).

MW  
7-31-06





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1029 mL  
Dilution Factor: 1

Client Sample ID: 06060825  
Lab Sample ID: D6F270263-025  
Lab WorkOrder: H8APX1AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/08/06 07:45  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	5.8	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	80	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1002 mL  
Dilution Factor: 1

Client Sample ID: 06060826  
Lab Sample ID: D6F270263-026  
Lab WorkOrder: H8AP01AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/08/06 08:09  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.8	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	57	18	142	

U Result is less than the method detection limit (MDL).

MW  
7-31-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1050 mL  
Dilution Factor: 1

Client Sample ID: 06060827  
Lab Sample ID: D6F270263-027  
Lab WorkOrder: H8AP21AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/10/06 14:13  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	5.5	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	49	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6183024  
Sample Aliquot: 1022 mL  
Dilution Factor: 1

Client Sample ID: 06060828  
Lab Sample ID: D6F270263-028  
Lab WorkOrder: H8AP31AA  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/02/06 14:30  
Date/Time Analyzed: 07/08/06 08:56  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	4.6	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	63	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: SOP

Unit: ng/L

QC Batch ID: 6183024

Sample Aliquot: 1038 mL

Dilution Factor: 1

Client Sample ID: 06060829

Lab Sample ID: D6F270263-029

Lab WorkOrder: H8AP41AA

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/02/06 14:30

Date/Time Analyzed: 07/08/06 09:20

Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	68	18	142	

U Result is less than the method detection limit (MDL).

MW7-3106



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060801  
Lab Sample ID: D6F270263-001  
Lab WorkOrder: H8AN01AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 14:46  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW 73106*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: LC-0024

Unit: ug/L

QC Batch ID: 6187471

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 06060802

Lab Sample ID: D6F270263-002

Lab WorkOrder: H8AN21AC

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/06/06 15:14

Date/Time Analyzed: 07/06/06 23:44

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.42	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U. Result is less than the method detection limit (MDL).

MW  
7/31/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060803  
Lab Sample ID: D6F270263-003  
Lab WorkOrder: H8AN31AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 00:08  
Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.21	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Mu*  
7-31-06





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060804  
Lab Sample ID: D6F270263-004  
Lab WorkOrder: H8AN41AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 00:33  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.59	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/31/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F270263Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6187471Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06060805Lab Sample ID: D6F270263-005Lab WorkOrder: H8AN51ACDate/Time Collected: 06/26/06 00:00Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/06/06 15:14Date/Time Analyzed: 07/07/06 15:11Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

  
7/3/06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6F270263Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6187471Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06060806Lab Sample ID: D6F270263-006Lab WorkOrder: H8AN61ACDate/Time Collected: 06/26/06 00:00Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/06/06 15:14Date/Time Analyzed: 07/07/06 15:40Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.75	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

Mw  
7-31-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: LC-0024

Unit: ug/L

QC Batch ID: 6187471

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 06060807

Lab Sample ID: D6F270263-007

Lab WorkOrder: H8AN71AC

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/06/06 15:14

Date/Time Analyzed: 07/07/06 16:05

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*me*  
*7-4-06*





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060808  
Lab Sample ID: D6F270263-008  
Lab WorkOrder: H8AN81AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 02:10  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0010	0.0010	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Mu*  
73106



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060809  
Lab Sample ID: D6F270263-009  
Lab WorkOrder: H8APA1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 16:29  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.0	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/3/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060810  
Lab Sample ID: D6F270263-010  
Lab WorkOrder: H8APC1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 16:53  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.36	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
7/31/06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060811  
Lab Sample ID: D6F270263-011  
Lab WorkOrder: H8APD1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 17:17  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.40	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7-31-06*





Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060812  
Lab Sample ID: D6F270263-012  
Lab WorkOrder: H8APE1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 17:42  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.023	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/31/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060814  
Lab Sample ID: D6F270263-014  
Lab WorkOrder: H8APH1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 18:06  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.93	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* JW  
*Handwritten date:* 7-3-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060815  
Lab Sample ID: D6F270263-015  
Lab WorkOrder: H8APJ1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 18:55  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.44	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187471  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060816  
Lab Sample ID: D6F270263-016  
Lab WorkOrder: H8APK1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 15:14  
Date/Time Analyzed: 07/07/06 19:19  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.38	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-31-06

**STL****Ecology and Environment, Inc.****Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060817  
Lab Sample ID: D6F270263-017  
Lab WorkOrder: H8APL1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 23:46  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.56	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/31/06





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060818  
Lab Sample ID: D6F270263-018  
Lab WorkOrder: H8APN1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/08/06 00:58  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0010	0.0010	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/31/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060819  
Lab Sample ID: D6F270263-019  
Lab WorkOrder: H8APP1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/08/06 01:23  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.5	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-3-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: LC-0024

Unit: ug/L

QC Batch ID: 6187499

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 06060820

Lab Sample ID: D6F270263-020

Lab WorkOrder: H8APQ1AC

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/06/06 16:02

Date/Time Analyzed: 07/08/06 01:47

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.85	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-31-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060821  
Lab Sample ID: D6F270263-021  
Lab WorkOrder: H8APRIAC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 10:42  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.18	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-7-06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060822  
Lab Sample ID: D6F270263-022  
Lab WorkOrder: H8APT1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 11:06  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0010	0.0010	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Mu*  
*7/3/06*





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: µg/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06060823  
Lab Sample ID: D6F270263-023  
Lab WorkOrder: H8APV1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 11:30  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.10	0.0010	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7-7-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060825  
Lab Sample ID: D6F270263-025  
Lab WorkOrder: H8APX1AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 20:32  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.62	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/31/06*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6F270263

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: LC-0024

Unit: ug/L

QC Batch ID: 6187499

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 06060826

Lab Sample ID: D6F270263-026

Lab WorkOrder: H8AP01AC

Date/Time Collected: 06/26/06 00:00

Date/Time Received: 06/27/06 08:30

Date/Time Leached:

Date/Time Extracted: 07/06/06 16:02

Date/Time Analyzed: 07/07/06 20:56

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.97	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-31-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060827  
Lab Sample ID: D6F270263-027  
Lab WorkOrder: H8AP21AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 21:20  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.62	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*M*  
7-31-06



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06060828  
Lab Sample ID: D6F270263-028  
Lab WorkOrder: H8AP31AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 21:44  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.67	0.0052	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/31/06*





Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6F270263  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6187499  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 06060829  
Lab Sample ID: D6F270263-029  
Lab WorkOrder: H8AP41AC  
Date/Time Collected: 06/26/06 00:00  
Date/Time Received: 06/27/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 07/06/06 16:02  
Date/Time Analyzed: 07/07/06 22:09  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.010	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-31-06*



# ecology and environment, inc.

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## MEMORANDUM

DATE: September 25, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 19 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

06080501	06080502	06080503	06080504	06080505
06080506	06080507	06080508	06080509	06080510
06080511	06080512	06080513	06080514	06080515
06080516	06080517	06080518	06080520	

### Data Qualifications:

#### 1. Sample Holding Times: Satisfactory.

The samples were generally maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , with sample coolers received at  $6.8^{\circ}\text{C}$  and  $3.3^{\circ}\text{C}$ ; no action was taken based on the slight QC temperature outlier. The samples were collected on August 22, 2006, were extracted for NDMA analysis on August 31, 2006 and September 11, 2006 (sample 06080502 only), and were analyzed for NDMA between July 7 and 13, 2006, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA, except the extraction for sample 06080502. The sample quantitation limit was qualified as an estimated quantity (UJ).

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Acceptable.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 50%.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Analysis: Acceptable.**

MS, LCS and LCSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

UJ - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080501  
Lab Code: K0607137-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	U	1	08/31/06	09/07/06	KWG0615052

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	88	70-130	09/07/06	Acceptable

Comments: \_\_\_\_\_

MW 9-25-06

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080502  
Lab Code: K0607137-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.1	1	09/11/06	09/13/06	KWG0615338	*

\* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	93	70-130	09/13/06	Acceptable

Comments:

MW 9-25-06



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080503  
Lab Code: K0607137-003  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	08/31/06	09/07/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	117	70-130	09/07/06	Acceptable

Comments: \_\_\_\_\_

MW 9-25-06

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080504  
Lab Code: K0607137-004

Units: ng/L

Basis: NA

Extraction Method: METHOD

Level: Low

Analysis Method: 521

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	3.5	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	09/08/06	Acceptable

Comments:

MW 9-25-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080505  
Lab Code: K0607137-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	3.8	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	09/08/06	Acceptable

Comments: 

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080506  
Lab Code: K0607137-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	99	70-130	09/08/06	Acceptable

Comments:

MW 9-25-06

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080507  
Lab Code: K0607137-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.6	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	09/08/06	Acceptable

Comments: \_\_\_\_\_

MW 9-25-06



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080508  
Lab Code: K0607137-008  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	110	70-130	09/08/06	Acceptable

Comments: \_\_\_\_\_

MW 9-25-06

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080509  
Lab Code: K0607137-009  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.5	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	94	70-130	09/08/06	Acceptable

Comments:

MW 9-25-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080510  
Lab Code: K0607137-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	09/08/06	Acceptable

Comments: \_\_\_\_\_

MW 9-25-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080511  
Lab Code: K0607137-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	09/08/06	Acceptable

Comments:

MW 9-25-08

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080512  
Lab Code: K0607137-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	U	1	08/31/06	09/08/06	KWG0615052

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	108	70-130	09/08/06	Acceptable

Comments: 



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

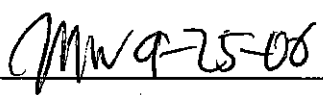
## Nitrosamines by EPA 521

Sample Name: 06080513  
Lab Code: K0607137-013  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.7	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	09/08/06	Acceptable

Comments: 

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080514  
Lab Code: K0607137-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	09/08/06	Acceptable

Comments:

MW 9-75-06

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080515  
Lab Code: K0607137-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	97	70-130	09/08/06	Acceptable

Comments:

MW 9-15-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080516  
Lab Code: K0607137-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.6	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	99	70-130	09/08/06	Acceptable

Comments:

JMN 9-25-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080517  
Lab Code: K0607137-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	09/08/06	Acceptable

Comments:

MW 9-25-06



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080518  
Lab Code: K0607137-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.0	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	118	70-130	09/08/06	Acceptable

Comments: \_\_\_\_\_

*MW 9-25-06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0607137  
Date Collected: 08/22/2006  
Date Received: 08/23/2006

## Nitrosamines by EPA 521

Sample Name: 06080520  
Lab Code: K0607137-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	08/31/06	09/08/06	KWG0615052	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	76	70-130	09/08/06	Acceptable

Comments:

MW 9-25-06



# ecology and environment, inc.

International Specialists in the Environment

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Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: September 29, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 22 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06080501	06080502	06080503	06080504	06080505
06080506	06080507	06080508	06080509	06080510
06080511	06080512	06080513	06080514	06080515
06080516	06080517	06080518	06080520	06080521
06080522	06080523			

### Data Qualifications:

#### 1. **Sample Holding Times: Satisfactory.**

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , with sample coolers received at  $4.0^{\circ}\text{C}$ ,  $4.8^{\circ}\text{C}$ , and  $3.9^{\circ}\text{C}$ . The sample were collected on August 22, 2006, were extracted for NDMA analysis between August 28 and September 9, were extracted for perchlorate analysis on September 7, 2006, and were analyzed for TCE on August 29, for NDMA between September 1 and 12, 2006, and for perchlorate between September 7 and 10, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 or 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate except for the NDMA extraction for sample 06080501; this NDMA sample result was qualified as an estimated quantity (UJ).

#### 2. **Tuning (TCE analysis only): Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Acceptable.**

All applicable SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

## 12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The associated numerical value is the estimated sample quantitation limit.



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080501  
Lab Sample ID: D6H240329-001  
Lab Work Order: JCSHF1AD  
Date/Time Collected: 08/22/06 08:58  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/07/06 23:14  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.67	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW 9-28-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080502  
Lab Sample ID: D6H240329-002  
Lab WorkOrder: JCSHK1AD  
Date/Time Collected: 08/22/06 09:10  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/07/06 23:38  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.65	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6250497Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06080503Lab Sample ID: D6H240329-018Lab WorkOrder: JC7WC1ACDate/Time Collected: 08/22/06 10:05Date/Time Received: 08/25/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/07/06 15:45Date/Time Analyzed: 09/08/06 04:29Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.15	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080504  
Lab Sample ID: D6H240329-019  
Lab WorkOrder: JC7WF1AC  
Date/Time Collected: 08/22/06 09:55  
Date/Time Received: 08/25/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/08/06 04:54  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.72	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MM  
9-2606

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080506  
Lab Sample ID: D6H240329-021  
Lab WorkOrder: IC7WK1AC  
Date/Time Collected: 08/22/06 09:30  
Date/Time Received: 08/25/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/08/06 05:18  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.72	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080507  
Lab Sample ID: D6H240329-022  
Lab WorkOrder: JC7WL1AC  
Date/Time Collected: 08/22/06 10:17  
Date/Time Received: 08/25/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/08/06 05:42  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.64	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080508  
Lab Sample ID: D6H240329-003  
Lab WorkOrder: JCSHL1AD  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/08/06 00:03  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.085	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6250497Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06080509Lab Sample ID: D6H240329-004Lab WorkOrder: JC5HN1AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/07/06 15:45Date/Time Analyzed: 09/08/06 01:15Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.51	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06080510  
Lab Sample ID: D6H240329-005  
Lab WorkOrder: JC5HQ1AC  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/10/06 02:48  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.9	0.10	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080511  
Lab Sample ID: D6H240329-006  
Lab WorkOrder: JC5HT1AA  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/08/06 02:52  
Instrument ID: LCMS1

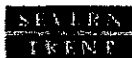
CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.020	0.020	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6250497Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06080512Lab Sample ID: D6H240329-007Lab WorkOrder: IC5HW1ACDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/07/06 15:45Date/Time Analyzed: 09/10/06 03:12Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.8	0.10	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
9-26-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: µg/LQC Batch ID: 6250497Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06080513Lab Sample ID: D6H240329-008Lab WorkOrder: JCSH01ACDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/07/06 15:45Date/Time Analyzed: 09/10/06 03:37Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.3	0.10	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
9-2606

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080514  
Lab Sample ID: D6H240329-009  
Lab WorkOrder: JC5H31AC  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/08/06 04:05  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.31	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6250497Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06080515Lab Sample ID: D6H240329-010Lab WorkOrder: IC5H41ACDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/07/06 15:45Date/Time Analyzed: 09/10/06 00:47Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.020	0.020	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06080516  
Lab Sample ID: D6H240329-011  
Lab WorkOrder: JC5H51AC  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/10/06 01:11  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.10	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6250497Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06080517Lab Sample ID: D6H240329-012Lab WorkOrder: JC5H61ACDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/07/06 15:45Date/Time Analyzed: 09/10/06 01:35Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.33	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06080518  
Lab Sample ID: D6H240329-013  
Lab WorkOrder: JCSH71AC  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/10/06 02:00  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.36	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*9-26-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6250497  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06080520  
Lab Sample ID: D6H240329-014  
Lab WorkOrder: JC5H81AC  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 09/07/06 15:45  
Date/Time Analyzed: 09/10/06 02:24  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.3	0.10	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
9-26-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6251508Sample Aliquot: 973 mLDilution Factor: 1Client Sample ID: 06080501Lab Sample ID: D6H240329-001Lab WorkOrder: JC5HF2ACDate/Time Collected: 08/22/06 08:58Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 09/09/06 16:00Date/Time Analyzed: 09/12/06 18:11Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	UJ

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	50	18	142	

U Result is less than the method detection limit (MDL).

  
 9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6240220  
 Sample Aliquot: 1004 mL  
 Dilution Factor: 1

Client Sample ID: 06080502  
 Lab Sample ID: D6H240329-002  
 Lab WorkOrder: IC5HK1AC  
 Date/Time Collected: 08/22/06 09:10  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/28/06 12:00  
 Date/Time Analyzed: 09/12/06 11:23  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	69	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*9-26-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6241557Sample Aliquot: 1033 mLDilution Factor: 1Client Sample ID: 06080503Lab Sample ID: D6H240329-018Lab WorkOrder: JC7WC1AADate/Time Collected: 08/22/06 10:05Date/Time Received: 08/25/06 08:30

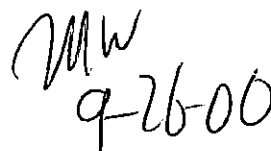
Date/Time Leached:

Date/Time Extracted: 08/29/06 21:15Date/Time Analyzed: 09/01/06 15:32Instrument ID: CTMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	48	18	142	

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6241557Sample Aliquot: 1005 mLDilution Factor: 1Client Sample ID: 06080504Lab Sample ID: D6H240329-019Lab WorkOrder: IC7WF1AADate/Time Collected: 08/22/06 09:55Date/Time Received: 08/25/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 21:15Date/Time Analyzed: 09/01/06 15:55Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	56	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6241557  
 Sample Aliquot: 1006 mL  
 Dilution Factor: 1

Client Sample ID: 06080505  
 Lab Sample ID: D6H240329-020  
 Lab WorkOrder: JC7WJ1AA  
 Date/Time Collected: 08/22/06 10:32  
 Date/Time Received: 08/25/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/29/06 21:15  
 Date/Time Analyzed: 09/01/06 16:19  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec.	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	52	18	142	

U Result is less than the method detection limit (MDL).

*Handwritten:* MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6241557Sample Aliquot: 1048 mLDilution Factor: 1Client Sample ID: 06080506Lab Sample ID: D6H240329-021Lab WorkOrder: JC7WK1AADate/Time Collected: 08/22/06 09:30Date/Time Received: 08/25/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 21:15Date/Time Analyzed: 09/01/06 16:43Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	42	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6241557Sample Aliquot: 1046 mLDilution Factor: 1Client Sample ID: 06080507Lab Sample ID: D6H240329-022Lab WorkOrder: IC7WL1AADate/Time Collected: 08/22/06 10:17Date/Time Received: 08/25/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 21:15Date/Time Analyzed: 09/01/06 17:06Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	34	18	142	

U Result is less than the method detection limit (MDL).





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6240220  
Sample Aliquot: 1000 mL  
Dilution Factor: 1

Client Sample ID: 06080508  
Lab Sample ID: D6H240329-003  
Lab WorkOrder: IC5HL1AA  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 08/28/06 12:00  
Date/Time Analyzed: 09/12/06 11:47  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.7	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	59	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6240220Sample Aliquot: 933 mLDilution Factor: 1Client Sample ID: 06080509Lab Sample ID: D6H240329-004Lab WorkOrder: JC5HN1ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/28/06 12:00Date/Time Analyzed: 09/12/06 12:11Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	52	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6240220Sample Aliquot: 1009 mLDilution Factor: 1Client Sample ID: 06080510Lab Sample ID: D6H240329-005Lab WorkOrder: JC5HQ1AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

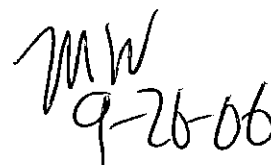
Date/Time Extracted: 08/28/06 12:00Date/Time Analyzed: 09/12/06 12:35Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.66	0.36	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	57	18	142	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6240220Sample Aliquot: 914 mLDilution Factor: 1Client Sample ID: 06080511Lab Sample ID: D6H240329-006Lab WorkOrder: JC5HT1ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/28/06 12:00Date/Time Analyzed: 09/12/06 12:59Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	41	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6240220Sample Aliquot: 952 mLDilution Factor: 1Client Sample ID: 06080512Lab Sample ID: D6H240329-007Lab WorkOrder: IC5HW1AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30


Date/Time Leached:

Date/Time Extracted: 08/28/06 12:00Date/Time Analyzed: 09/12/06 13:23Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	52	18	142	

U Result is less than the method detection limit (MDL).







## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6240220Sample Aliquot: 973 mLDilution Factor: 1Client Sample ID: 06080513Lab Sample ID: D6H240329-008Lab WorkOrder: JC5H01AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/28/06 12:00Date/Time Analyzed: 09/12/06 14:11Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	42	18	142	

U Result is less than the method detection limit (MDL).

mw  
9-26-06

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6240220  
 Sample Aliquot: 968 mL  
 Dilution Factor: 1

Client Sample ID: 06080514  
 Lab Sample ID: D6H240329-009  
 Lab WorkOrder: JC5H31AA  
 Date/Time Collected: 08/22/06 00:00  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/28/06 12:00  
 Date/Time Analyzed: 09/12/06 14:35  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	44	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6240220Sample Aliquot: 970 mLDilution Factor: 1Client Sample ID: 06080515Lab Sample ID: D6H240329-010Lab WorkOrder: JC5H41AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/28/06 12:00Date/Time Analyzed: 09/12/06 14:59Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	49	18	142	

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6240220  
Sample Aliquot: 987 mL  
Dilution Factor: 1

Client Sample ID: 06080516  
Lab Sample ID: D6H240329-011  
Lab WorkOrder: JC5H51AA  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 08/28/06 12:00  
Date/Time Analyzed: 09/12/06 15:23  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	42	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6240220  
 Sample Aliquot: 971 mL  
 Dilution Factor: 1

Client Sample ID: 06080517  
 Lab Sample ID: D6H240329-012  
 Lab WorkOrder: JC5H61AA  
 Date/Time Collected: 08/22/06 00:00  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/28/06 12:00  
 Date/Time Analyzed: 09/12/06 15:47  
 Instrument ID: CIMS1

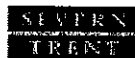
CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	42	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*9-28-06*





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6240220  
Sample Aliquot: 262 mL  
Dilution Factor: 1

Client Sample ID: 06080518  
Lab Sample ID: D6H240329-013  
Lab WorkOrder: IC5H71AA  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 08/28/06 12:00  
Date/Time Analyzed: 09/12/06 16:11  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	47	18	142	

U Result is less than the method detection limit (MDL).

*Handwritten signature:* JAW  
*Handwritten date:* 9-25-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6240220  
Sample Aliquot: 966 mL  
Dilution Factor: 1

Client Sample ID: 06080520  
Lab Sample ID: D6H240329-014  
Lab WorkOrder: JC5H81AA  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 08/28/06 12:00  
Date/Time Analyzed: 09/12/06 16:35  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	42	18	142	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080501Lab Sample ID: D6H240329-001Lab WorkOrder: JC5HF1AADate/Time Collected: 08/22/06 08:58Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 14:50Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	102	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6242142  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06080502  
 Lab Sample ID: D6H240329-002  
 Lab WorkOrder: JC5HK1AA  
 Date/Time Collected: 08/22/06 09:10  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/29/06 09:13  
 Date/Time Analyzed: 08/29/06 15:11  
 Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	101	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MW  
 9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ng/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080508Lab Sample ID: D6H240329-003Lab WorkOrder: JC5HL1ACDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 15:33Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	112	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).







## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080509Lab Sample ID: D6H240329-004Lab WorkOrder: JC5HN1ACDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 15:54Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

MV  
9-2606

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6242142  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06080510  
 Lab Sample ID: D6H240329-005  
 Lab WorkOrder: JC5HQ1AD  
 Date/Time Collected: 08/22/06 00:00  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/29/06 09:13  
 Date/Time Analyzed: 08/29/06 16:15  
 Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	92	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6242142  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06080511  
 Lab Sample ID: D6H240329-006  
 Lab WorkOrder: IC5HT1AC  
 Date/Time Collected: 08/22/06 00:00  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/29/06 09:13  
 Date/Time Analyzed: 08/29/06 16:36  
 Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080512Lab Sample ID: D6H240329-007Lab WorkOrder: JCSHW1ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 17:19Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	92	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6242142  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06080513  
 Lab Sample ID: D6H240329-008  
 Lab WorkOrder: IC5H01AD  
 Date/Time Collected: 08/22/06 00:00  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/29/06 09:13  
 Date/Time Analyzed: 08/29/06 17:40  
 Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	111	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06





## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6H240329  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6242142  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06080514  
 Lab Sample ID: D6H240329-009  
 Lab WorkOrder: JCSH31AD  
 Date/Time Collected: 08/22/06 00:00  
 Date/Time Received: 08/24/06 08:30  
 Date/Time Leached:   
 Date/Time Extracted: 08/29/06 09:13  
 Date/Time Analyzed: 08/29/06 18:01  
 Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	114	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	118	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

mw  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080515Lab Sample ID: D6H240329-010Lab WorkOrder: JCSH41ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 18:23Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	108	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

U Result is less than the method detection limit (MDL).

mw  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6H240329  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6242142  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06080516  
Lab Sample ID: D6H240329-011  
Lab WorkOrder: JCSH51AD  
Date/Time Collected: 08/22/06 00:00  
Date/Time Received: 08/24/06 08:30  
Date/Time Leached:   
Date/Time Extracted: 08/29/06 09:13  
Date/Time Analyzed: 08/29/06 18:44  
Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080517Lab Sample ID: D6H240329-012Lab WorkOrder: JC5H61ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 19:05Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

mw  
8-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242142Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080518Lab Sample ID: D6H240329-013Lab WorkOrder: IC5H71ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 09:13Date/Time Analyzed: 08/29/06 19:26Instrument ID: C

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	92	75	115	

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242228Sample Allquot: 20 mLDilution Factor: 1Client Sample ID: 06080520Lab Sample ID: D6H240329-014Lab WorkOrder: JC5H81ADDate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 16:47Date/Time Analyzed: 08/29/06 19:32Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	87	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	96	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

mw  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242228Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080521Lab Sample ID: D6H240329-015Lab WorkOrder: IC5JD1AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 16:47Date/Time Analyzed: 08/29/06 19:53Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	94	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242228Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06080522Lab Sample ID: D6H240329-016Lab WorkOrder: JC5JE1AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 16:47Date/Time Analyzed: 08/29/06 20:13Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	12	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	97	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6H240329Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6242228Sample Allquot: 20 mLDilution Factor: 1Client Sample ID: 06080523Lab Sample ID: D6H240329-017Lab WorkOrder: JC5JF1AADate/Time Collected: 08/22/06 00:00Date/Time Received: 08/24/06 08:30

Date/Time Leached:

Date/Time Extracted: 08/29/06 16:47Date/Time Analyzed: 08/29/06 20:33Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	95	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

MW  
9-26-06



# ecology and environment, inc.

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## MEMORANDUM

DATE: October 26, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of 35 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

06090905	06090906	06090907	06090908	06090909
06090910	06090911	06090912	06090913	06090914
06090916	06090917	06090918	06090920	06090922
06090923	06090924	06090925	06090926	06090927
06090928	06090929	06090930	06090931	06090932
06090933	06090935	06090936	06090937	06090940
06090941	06090942	06090943	06090944	06090945

### Data Qualifications:

#### 1. **Sample Holding Times: Satisfactory.**

The samples were generally maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , with sample coolers received between  $0.2^{\circ}\text{C}$  and  $2.6^{\circ}\text{C}$ ; no action was taken based on the slight QC temperature outliers. The samples were collected on September 14 and 15, 2006, were extracted for NDMA analysis on September 28 or 29, 2006, and were analyzed for NDMA by October 6, 2006, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. **Initial Calibration: Acceptable.**

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.



**3. Continuing Calibration: Acceptable.**

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 50%.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Satisfactory.**

All applicable SMC recoveries were within QC limits except in sample 06090942 with a high recovery. No action was taken based on this outlier as NDMA was not detected in the sample.

**6. Matrix Spike (MS)/Laboratory Control Sample (LCS)/LCS Duplicate (LCSD) Analysis: Acceptable.**

MS, LCS and LCSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Satisfactory.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts except as noted above in the SMC section.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090905  
Lab Code: K0607957-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	3.0	2.0	1	09/28/06	10/06/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	97	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
102606

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090906  
Lab Code: K0607957-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.3	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	93	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
*10-26-06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090907  
Lab Code: K0607957-003  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	10/05/06	Acceptable

Comments:

*mw*  
*10/26/06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090908  
Lab Code: K0607957-004  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*mw*  
*10-26-06*



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090909  
Lab Code: K0607957-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	94	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
*10/26/06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090910  
Lab Code: K0607957-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.4		2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	100	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*mw*  
*10/26/06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090911  
Lab Code: K0607957-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.5	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	82	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
*10/26/06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090912  
Lab Code: K0607957-008  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	10/05/06	Acceptable

Comments:

MW  
10-26-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090913  
Lab Code: K0607957-009  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.1	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
*10/26/06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090914  
Lab Code: K0607957-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MM* 10-26-06



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090916  
Lab Code: K0607957-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	85	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MMW*  
*102606*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/14/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090917  
Lab Code: K0607957-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

MW  
10-26-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090918  
Lab Code: K0607957-013  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	3.0	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*mw*  
*10-26-06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090920  
Lab Code: K0607957-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	10/05/06	Acceptable

MW  
10/26/06

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090922  
Lab Code: K0607957-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.1	2.0	I	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

MW  
10-26-06

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090923  
Lab Code: K0607957-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	119	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
*10-26-06*



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090924  
Lab Code: K0607957-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/05/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	99	70-130	10/05/06	Acceptable

Comments: \_\_\_\_\_

*mw*  
*102606*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090925  
Lab Code: K0607957-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.9	2.0	1	09/28/06	10/06/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	119	70-130	10/06/06	Acceptable

*MW*  
*102606*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090926  
Lab Code: K0607957-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/06/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

*mw*  
*10-26-06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090927  
Lab Code: K0607957-020  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/28/06	10/06/06	KWG0617074	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090928  
Lab Code: K0607957-021  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.1	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	112	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

*Mr*  
*10/26/06*

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090929  
Lab Code: K0607957-022  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	99	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

*MW*  
*10/26/06*



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090930  
Lab Code: K0607957-023  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	96	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090931  
Lab Code: K0607957-024  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	111	70-130	10/06/06	Acceptable

Comments:

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10-26-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090932  
Lab Code: K0607957-025  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	120	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

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10-26-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090933  
Lab Code: K0607957-026  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

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## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090935  
Lab Code: K0607957-027  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	128	70-130	10/06/06	Acceptable

MW 102606

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090936  
Lab Code: K0607957-028  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	116	70-130	10/06/06	Acceptable

MW  
10-26-06

Comments: \_\_\_\_\_



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090937  
Lab Code: K0607957-029  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	102	70-130	10/06/06	Acceptable

Comments: \_\_\_\_\_

MW  
10-26-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090940  
Lab Code: K0607957-030  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	10/06/06	Acceptable

MW 10-26-06

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090941  
Lab Code: K0607957-031  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	10/06/06	Acceptable

MW/102606

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090942  
Lab Code: K0607957-032  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	142	70-130	10/06/06	Outside Control Limits

Comments: \_\_\_\_\_

MW  
10-26-06

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090943  
Lab Code: K0607957-033  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	128	70-130	10/06/06	Acceptable

*Mr 102606*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090944  
Lab Code: K0607957-034  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	115	70-130	10/06/06	Acceptable

*MW 102606*

Comments: \_\_\_\_\_



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: Site # 06030009  
Sample Matrix: Water

Service Request: K0607957  
Date Collected: 09/15/2006  
Date Received: 09/16/2006

## Nitrosamines by EPA 521

Sample Name: 06090945  
Lab Code: K0607957-035  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.3	2.0	1	09/29/06	10/06/06	KWG0617076	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	123	70-130	10/06/06	Acceptable

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*10-26-06*

Comments: \_\_\_\_\_



# ecology and environment, inc.

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## MEMORANDUM

DATE: October 10, 2006

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 45 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260), n-nitrosodimethylamine (NDMA) analysis (STL-Denver Standard Operating Procedure [SOP]), and perchlorate (EPA SW-846 Method 6860) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06090601	06090602	06090603	06090604	06090605
06090606	06090607	06090608	06090609	06090610
06090611	06090612	06090613	06090614	06090615
06090616	06090617	06090618	06090620	06090621
06090622	06090623	06090624	06090625	06090626
06090627	06090628	06090629	06090630	06090631
06090632	06090633	06090634	06090635	06090636
06090637	06090638	06090639	06090640	06090641
06090642	06090643	06090644	06090645	

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were generally maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , with sample coolers received at  $0.9^{\circ}\text{C}$ ,  $3.0^{\circ}\text{C}$ ,  $2.4^{\circ}\text{C}$ ,  $2.6^{\circ}\text{C}$ ,  $2.4^{\circ}\text{C}$  and  $2.8^{\circ}\text{C}$ ; no action was taken based on the samples received slightly below QC limits. The samples were collected on September 14 and 15, 2006, were extracted for NDMA analysis between September 17 and 21, were extracted for perchlorate analysis between September 27 and 28, 2006, and were analyzed for TCE on September 20 or 21, for NDMA between September 21 and 26, 2006, and for perchlorate on September 29, 2006, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 7 or 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA and perchlorate.

**2. Tuning (TCE analysis only): Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for NDMA and perchlorate were both greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for NDMA and perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank that affected sample results.

**6. System Monitoring Compounds (SMCs; TCE and NDMA only): Acceptable.**

All applicable SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

## 12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090607  
Lab Sample ID: D61160210-007  
Lab WorkOrder: JEGDC1AC  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 00:01  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.28	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090608  
Lab Sample ID: D6I160210-008  
Lab WorkOrder: JEGDE1AC  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 00:25  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.31	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*p-9-06*



**STL**

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: µg/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090612  
Lab Sample ID: D6I160210-012  
Lab WorkOrder: JEGDK1AC  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 00:49  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.020	0.020	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*10-206*

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06090621  
Lab Sample ID: D6I160210-021  
Lab WorkOrder: JEGDW1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 01:13  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.97	0.10	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
10-4-08

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090622  
Lab Sample ID: D61160210-022  
Lab WorkOrder: JEGD11AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 03:15  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.46	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090623  
Lab Sample ID: D61160210-023  
Lab WorkOrder: JEGEA1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 03:39  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.020	0.020	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
12-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090624  
Lab Sample ID: D61160210-024  
Lab WorkOrder: JEGEC1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 04:03  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.30	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*10-9-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090625  
Lab Sample ID: D61160210-025  
Lab WorkOrder: JEGEE1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 04:27  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.65	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*10-9-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090627  
Lab Sample ID: D61160210-027  
Lab WorkOrder: JEJEJ1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 04:52  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.020	0.020	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090628  
Lab Sample ID: D6I160210-028  
Lab WorkOrder: IEGEK1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 05:16  
Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.44	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*12-9-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6270669  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090629  
Lab Sample ID: D6I160210-029  
Lab WorkOrder: JEGELIAC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/27/06 18:07  
Date/Time Analyzed: 09/29/06 05:40  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.020	0.020	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*10-4-06*

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6271354  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090630  
Lab Sample ID: D61160210-030  
Lab WorkOrder: JEGEM1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/28/06 12:40  
Date/Time Analyzed: 09/29/06 07:42  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.43	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*10-9-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6271354  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06090631  
 Lab Sample ID: D61160210-031  
 Lab WorkOrder: JEGEN1AC  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/28/06 12:40  
 Date/Time Analyzed: 09/29/06 08:54  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.51	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MD*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ng/LQC Batch ID: 6271354Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06090632Lab Sample ID: D6I160210-032Lab WorkOrder: JEGER1ACDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/28/06 12:40Date/Time Analyzed: 09/29/06 09:19Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.12	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).





Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6271354Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06090633Lab Sample ID: D61160210-033Lab WorkOrder: JEGET1ACDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/28/06 12:40Date/Time Analyzed: 09/29/06 09:43Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.16	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mm  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6271354  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090635  
Lab Sample ID: D61160210-034  
Lab WorkOrder: JEGEV1AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/28/06 12:40  
Date/Time Analyzed: 09/29/06 10:56  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.76	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
10406



STL

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6271354  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090636  
Lab Sample ID: D61160210-035  
Lab WorkOrder: JEGEWIAC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/28/06 12:40  
Date/Time Analyzed: 09/29/06 11:20  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.68	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 6271354  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06090637  
 Lab Sample ID: D61160210-036  
 Lab WorkOrder: JEGEX1AC  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/28/06 12:40  
 Date/Time Analyzed: 09/29/06 11:44  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.67	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*10906*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6271354  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090642  
Lab Sample ID: D6I160210-040  
Lab WorkOrder: JEGE31AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/28/06 12:40  
Date/Time Analyzed: 09/29/06 12:08  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.33	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*10/9/06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6271354Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06090643Lab Sample ID: D6I160210-041Lab WorkOrder: IEGE41ACDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54


Date Leached:

Date/Time Extracted: 09/28/06 12:40Date/Time Analyzed: 09/29/06 12:33Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.14	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

  
10-9-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 6271354Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06090644Lab Sample ID: D6I160210-042Lab WorkOrder: JE6E61ACDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

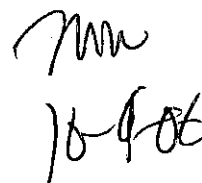
Date Leached:

Date/Time Extracted: 09/28/06 12:40Date/Time Analyzed: 09/29/06 12:57Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.38	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 6271354  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06090645  
Lab Sample ID: D6I160210-043  
Lab WorkOrder: JEGE71AC  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/28/06 12:40  
Date/Time Analyzed: 09/29/06 13:21  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.36	0.020	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6260027Sample Aliquot: 897 mLDilution Factor: 1Client Sample ID: 06090605Lab Sample ID: D61160210-005Lab WorkOrder: JEGC81AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/17/06 12:00Date/Time Analyzed: 09/21/06 13:13Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	3.4	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	54	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 869 mL  
Dilution Factor: 1

Client Sample ID: 06090606  
Lab Sample ID: D6I160210-006  
Lab WorkOrder: JEGDA1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 13:39  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	54	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6260027Sample Aliquot: 968 mLDilution Factor: 1Client Sample ID: 06090607Lab Sample ID: D61160210-007Lab WorkOrder: JEGDC1AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/17/06 12:00Date/Time Analyzed: 09/21/06 14:05Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	49	18	142	

U Result is less than the method detection limit (MDL).

mw 10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 941 mL  
Dilution Factor: 1

Client Sample ID: 06090608  
Lab Sample ID: D6I160210-008  
Lab WorkOrder: JEGDE1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:   
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 14:31  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	46	18	142	

U Result is less than the method detection limit (MDL).

*MW 10-8-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 1028 mL  
Dilution Factor: 1

Client Sample ID: 06090609  
Lab Sample ID: D6I160210-009  
Lab WorkOrder: JEGDF1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 14:57  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	19	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6260027Sample Aliquot: 1033 mLDilution Factor: 1Client Sample ID: 06090610Lab Sample ID: D6I160210-010Lab WorkOrder: JEGDH1AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/17/06 12:00Date/Time Analyzed: 09/21/06 15:23Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	43	18	142	

U Result is less than the method detection limit (MDL).

mw  
109-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 1019 mL  
Dilution Factor: 1

Client Sample ID: 06090611  
Lab Sample ID: D6I160210-011  
Lab WorkOrder: JEGDJ1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 15:50  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	2.6	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	42	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 1010 mL  
Dilution Factor: 1

Client Sample ID: 06090612  
Lab Sample ID: D6I160210-012  
Lab WorkOrder: JEGDK1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 16:44  
Instrument ID: CMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	51	18	142	

U Result is less than the method detection limit (MDL).

MW  
104-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 929 mL  
Dilution Factor: 1

Client Sample ID: 06090613  
Lab Sample ID: D61160210-013  
Lab WorkOrder: JEGDL1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 17:12  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	79	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 976 mL  
Dilution Factor: 1

Client Sample ID: 06090614  
Lab Sample ID: D61160210-014  
Lab WorkOrder: JEGDM1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 17:40  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	45	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*10-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6260027Sample Aliquot: 967 mLDilution Factor: 1Client Sample ID: 06090615Lab Sample ID: D61160210-015Lab WorkOrder: JEGDN1AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/17/06 12:00Date/Time Analyzed: 09/21/06 18:08Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	51	18	142	

U Result is less than the method detection limit (MDL).

mw  
10-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6260027  
Sample Aliquot: 947 mL  
Dilution Factor: 1

Client Sample ID: 06090616  
Lab Sample ID: D61160210-016  
Lab WorkOrder: JEGDP1AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/17/06 12:00  
Date/Time Analyzed: 09/21/06 18:36  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	47	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*109-08*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6I160210

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: SOP

Unit: ng/L

QC Batch ID: 6262378

Sample Aliquot: 926 mL

Dilution Factor: 1

Client Sample ID: 06090617

Lab Sample ID: D6I160210-017

Lab WorkOrder: JEGDO1AA

Date/Time Collected: 09/14/06 09:00

Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/19/06 13:00

Date/Time Analyzed: 09/25/06 19:54

Instrument ID: CIMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	68	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 924 mL  
Dilution Factor: 1

Client Sample ID: 06090618  
Lab Sample ID: D61160210-018  
Lab WorkOrder: JEGDR1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/25/06 20:29  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.6	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	74	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 965 mL  
Dilution Factor: 1

Client Sample ID: 06090619  
Lab Sample ID: D61160210-019  
Lab WorkOrder: JEGDT1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/25/06 21:06  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.43	J 0.36	1.0	J me

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	56	18	142	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

mw  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 984 mL  
Dilution Factor: 1

Client Sample ID: 06090620  
Lab Sample ID: D61160210-020  
Lab WorkOrder: JEGDV1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/25/06 21:43  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	62	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 1028 mL  
Dilution Factor: 1

Client Sample ID: 06090621  
Lab Sample ID: D6I160210-021  
Lab WorkOrder: JEGDW1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:   
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/25/06 23:01  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	53	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6262378  
 Sample Aliquot: 976 mL  
 Dilution Factor: 1

Client Sample ID: 06090622  
 Lab Sample ID: D61160210-022  
 Lab WorkOrder: JEGD11AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/19/06 13:00  
 Date/Time Analyzed: 09/26/06 01:04  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	66	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 1031 mL  
Dilution Factor: 1

Client Sample ID: 06090623  
Lab Sample ID: D61160210-023  
Lab WorkOrder: JEGEA1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/26/06 01:46  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	54	18	142	

U Result is less than the method detection limit (MDL):

MW  
10-9-06

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 1034 mL  
Dilution Factor: 1

Client Sample ID: 06090624  
Lab Sample ID: D6I160210-024  
Lab WorkOrder: JEGEC1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/26/06 02:29  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	49	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6262378  
 Sample Aliquot: 1029 mL  
 Dilution Factor: 1

Client Sample ID: 06090625  
 Lab Sample ID: D61160210-025  
 Lab WorkOrder: JEGEE1AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/19/06 13:00  
 Date/Time Analyzed: 09/26/06 15:13  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	70	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6262378  
Sample Aliquot: 984 mL  
Dilution Factor: 1

Client Sample ID: 06090626  
Lab Sample ID: D6I160210-026  
Lab WorkOrder: JEGEG1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/19/06 13:00  
Date/Time Analyzed: 09/26/06 03:48  
Instrument ID: CIMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	69	18	142	

U Result is less than the method detection limit (MDL).

MW  
10908



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6264374  
Sample Aliquot: 1023 mL  
Dilution Factor: 1

Client Sample ID: 06090627  
Lab Sample ID: D61160210-027  
Lab WorkOrder: JEGEJ1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/21/06 14:00  
Date/Time Analyzed: 09/26/06 18:33  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	48	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6264374  
Sample Aliquot: 929 mL  
Dilution Factor: 1

Client Sample ID: 06090628  
Lab Sample ID: D6I160210-028  
Lab WorkOrder: JEGEK1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/21/06 14:00  
Date/Time Analyzed: 09/26/06 18:57  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	48	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6264374  
Sample Aliquot: 948 mL  
Dilution Factor: 1

Client Sample ID: 06090629  
Lab Sample ID: D6I160210-029  
Lab WorkOrder: JEGEL1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/21/06 14:00  
Date/Time Analyzed: 09/26/06 19:21  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	53	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6264374  
 Sample Aliquot: 956 mL  
 Dilution Factor: 1

Client Sample ID: 06090630  
 Lab Sample ID: D61160210-030  
 Lab WorkOrder: JEGEM1AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/21/06 14:00  
 Date/Time Analyzed: 09/26/06 19:44  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	54	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6264374Sample Aliquot: 940 mLDilution Factor: 1Client Sample ID: 06090631Lab Sample ID: D6I160210-031Lab WorkOrder: IEGENIAADate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/21/06 14:00Date/Time Analyzed: 09/26/06 20:08Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.81	<u>5</u> 0.36	1.0	<u>Am</u>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	52	18	142	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

MW  
12-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6264374  
Sample Aliquot: 1029 mL  
Dilution Factor: 1

Client Sample ID: 06090632  
Lab Sample ID: D61160210-032  
Lab WorkOrder: JEGER1AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/21/06 14:00  
Date/Time Analyzed: 09/26/06 20:56  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	55	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6264374  
Sample Aliquot: 935 mL  
Dilution Factor: 1

Client Sample ID: 06090633  
Lab Sample ID: D6I160210-033  
Lab WorkOrder: JEGETIAA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/21/06 14:00  
Date/Time Analyzed: 09/26/06 21:20  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	47	18	142	

U Result is less than the method detection limit (MDL).

*mw*  
*10906*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6I160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6264374  
 Sample Aliquot: 1030 mL  
 Dilution Factor: 1

Client Sample ID: 06090635  
 Lab Sample ID: D6I160210-034  
 Lab WorkOrder: JEGEV1AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/21/06 14:00  
 Date/Time Analyzed: 09/26/06 21:43  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	53	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name:	<u>STL DENVER</u>	Client Sample ID:	<u>05090636</u>
Lot/SDG Number:	<u>D6J160210</u>	Lab Sample ID:	<u>D6J160210-035</u>
Matrix:	<u>WATER</u>	Lab WorkOrder:	<u>JEGEW1AA</u>
% Moisture:	<u>N/A</u>	Date/Time Collected:	<u>09/15/06 00:00</u>
Basis:	<u>Wet</u>	Date/Time Received:	<u>09/16/06 08:54</u>
Analysis Method:	<u>SOP</u>	Date Leached:	
Unit:	<u>ng/L</u>	Date/Time Extracted:	<u>09/21/06 14:00</u>
QC Batch ID:	<u>6264374</u>	Date/Time Analyzed:	<u>09/26/06 22:07</u>
Sample Aliquot:	<u>207 mL</u>	Instrument ID:	<u>CIMS1</u>
Dilution Factor:	<u>1</u>		

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	58	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-4-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6264374  
 Sample Aliquot: 933 mL  
 Dilution Factor: 1

Client Sample ID: 06090637  
 Lab Sample ID: D61160210-036  
 Lab WorkOrder: JEGEX1AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/21/06 14:00  
 Date/Time Analyzed: 09/26/06 22:31  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	45	18	142	

U Result is less than the method detection limit (MDL):

MW  
109-06

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: SOPUnit: ng/LQC Batch ID: 6264374Sample Aliquot: 939 mLDilution Factor: 1Client Sample ID: 06090640Lab Sample ID: D6I160210-038Lab WorkOrder: JEGE11AADate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/21/06 14:00Date/Time Analyzed: 09/26/06 22:54Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	65	18	142	

U Result is less than the method detection limit (MDL).

*mm*  
*10-9-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6I160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6264374  
 Sample Aliquot: 995 mL  
 Dilution Factor: 1

Client Sample ID: 06090641  
 Lab Sample ID: D6I160210-039  
 Lab WorkOrder: JEGE21AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/21/06 14:00  
 Date/Time Analyzed: 09/26/06 23:18  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	64	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-08



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6264375  
 Sample Aliquot: 905 mL  
 Dilution Factor: 1

Client Sample ID: 06090642  
 Lab Sample ID: D61160210-040  
 Lab WorkOrder: JEGB31AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/21/06 14:00  
 Date/Time Analyzed: 09/26/06 07:04  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	72	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*10-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6I160210

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: SOP

Unit: ng/L

QC Batch ID: 6264375

Sample Aliquot: 874 mL

Dilution Factor: 1

Client Sample ID: 06090643

Lab Sample ID: D6I160210-041

Lab WorkOrder: JEGE41AA

Date/Time Collected: 09/15/06 00:00

Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/21/06 14:00

Date/Time Analyzed: 09/26/06 07:52

Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	54	18	142	

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: SOP  
Unit: ng/L  
QC Batch ID: 6264375  
Sample Aliquot: 984 mL  
Dilution Factor: 1

Client Sample ID: 06090644  
Lab Sample ID: D6I160210-042  
Lab WorkOrder: JE6E61AA  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/21/06 14:00  
Date/Time Analyzed: 09/26/06 08:41  
Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	1.0	0.36	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	68	18	142	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6I160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: SOP  
 Unit: ng/L  
 QC Batch ID: 6264375  
 Sample Aliquot: 1020 mL  
 Dilution Factor: 1

Client Sample ID: 06090645  
 Lab Sample ID: D6I160210-043  
 Lab WorkOrder: JE6E71AA  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/21/06 14:00  
 Date/Time Analyzed: 09/26/06 09:31  
 Instrument ID: CIMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
62-75-9	N-Nitrosodimethylamine	0.36	0.36	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
Q39885-14-8	N-Nitrosodimethylamine-d6	53	18	142	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6263491Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06090601Lab Sample ID: D61160210-001Lab WorkOrder: JEGC41AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

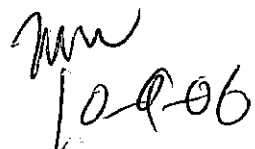
Date Leached:

Date/Time Extracted: 09/20/06 08:33Date/Time Analyzed: 09/20/06 11:02Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	8.3	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	78	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	83	75	115	

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6I160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 5 mL  
Dilution Factor: 4

Client Sample ID: 06090602  
Lab Sample ID: D6I160210-002  
Lab WorkOrder: JEGC51AA  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 11:22  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	110	0.64	4.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	84	75	115	

U Result is less than the method detection limit (MDL).

MW  
10-9-06



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6263491Sample Aliquot: 5 mLDilution Factor: 4Client Sample ID: 06090603Lab Sample ID: D6I160210-003Lab WorkOrder: JEGC61AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 08:33Date/Time Analyzed: 09/20/06 13:44Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	170	0.64	4.0	

CAS No.	Surrogate	% Rec.	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	89	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	88	75	115	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6263491Sample Aliquot: 5 mLDilution Factor: 4Client Sample ID: 06090604Lab Sample ID: D6I160210-004Lab WorkOrder: JEGC71AADate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 08:33Date/Time Analyzed: 09/20/06 14:05Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	140	0.64	4.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	88	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	86	75	115	

U. Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090607  
Lab Sample ID: D61160210-007  
Lab WorkOrder: JEGDC1AD  
Date/Time Collected: 09/14/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 11:42  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	88	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*10 Feb*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6I160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6263491  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06090608  
 Lab Sample ID: D6I160210-008  
 Lab WorkOrder: JEGDE1AD  
 Date/Time Collected: 09/14/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/20/06 08:33  
 Date/Time Analyzed: 09/20/06 12:23  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	90	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	92	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6263491Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06090612Lab Sample ID: D61160210-012Lab WorkOrder: JEGDK1ADDate/Time Collected: 09/14/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 08:33Date/Time Analyzed: 09/20/06 12:43Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	90	65	126	
2037-26-5	Toluene-d8	92	78	118	
1868-53-7	Dibromofluoromethane	93	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

mw  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090621  
Lab Sample ID: D61160210-021  
Lab WorkOrder: JEGDW1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 12:03  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	88	75	115	

U Result is less than the method detection limit (MDL).

MW  
10-4-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6I160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6263491  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06090622  
 Lab Sample ID: D6I160210-022  
 Lab WorkOrder: JEGD11AD  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/20/06 08:33  
 Date/Time Analyzed: 09/20/06 14:25  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*10-9-06*

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090623  
Lab Sample ID: D61160210-023  
Lab WorkOrder: JEGEA1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 14:45  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	87	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	92	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

mw  
10-9-06

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090624  
Lab Sample ID: D61160210-024  
Lab WorkOrder: JECEC1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 15:05  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	84	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-06*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090625  
Lab Sample ID: D61160210-025  
Lab WorkOrder: JEGEE1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:   
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 15:26  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	88	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6I160210

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 6263491

Sample Aliquot: 20 mL

Dilution Factor: 1

Client Sample ID: 06090627

Lab Sample ID: D6I160210-027

Lab WorkOrder: JEJEJ1AD

Date/Time Collected: 09/15/06 00:00

Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 08:33

Date/Time Analyzed: 09/20/06 15:46

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	89	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	93	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6263491Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06090628Lab Sample ID: D6I160210-028Lab WorkOrder: JEGEK1ADDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 08:33Date/Time Analyzed: 09/20/06 16:06Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	88	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	92	79	119	
460-00-4	4-Bromofluorobenzene	88	75	115	

U Result is less than the method detection limit (MDL).

JW  
10-9-06



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6I160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6263491  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06090629  
 Lab Sample ID: D6I160210-029  
 Lab WorkOrder: JEGELIAD  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/20/06 08:33  
 Date/Time Analyzed: 09/20/06 16:26  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	87	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090630  
Lab Sample ID: D61160210-030  
Lab WorkOrder: JEGEM1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:   
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 16:47  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

*Mw*  
*10406*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090632  
Lab Sample ID: D61160210-032  
Lab WorkOrder: JEGER1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 17:07  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D61160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6265101Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06090633Lab Sample ID: D61160210-033Lab WorkOrder: JEGETIADDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/21/06 09:04Date/Time Analyzed: 09/21/06 14:58Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	97	78	118	
1868-53-7	Dibromofluoromethane	89	79	119	
460-00-4	4-Bromofluorobenzene	83	75	115	

U Result is less than the method detection limit (MDL).

mw  
10-9-06

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6263491  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090635  
Lab Sample ID: D61160210-034  
Lab WorkOrder: JEGEV1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 08:33  
Date/Time Analyzed: 09/20/06 17:47  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

MW  
10456

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D61160210  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6263491  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06090636  
 Lab Sample ID: D61160210-035  
 Lab WorkOrder: JEGEW1AD  
 Date/Time Collected: 09/15/06 00:00  
 Date/Time Received: 09/16/06 08:54  
 Date Leached:  
 Date/Time Extracted: 09/20/06 08:33  
 Date/Time Analyzed: 09/20/06 18:08  
 Instrument ID: 2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	86	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6264349  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090637  
Lab Sample ID: D61160210-036  
Lab WorkOrder: JEGEX1AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 09:22  
Date/Time Analyzed: 09/20/06 17:45  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	102	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	109	79	119	
460-00-4	4-Bromofluorobenzene	113	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*10-9-06*

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6264349Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06090639Lab Sample ID: D6I160210-037Lab WorkOrder: JEGE01AADate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 09:22Date/Time Analyzed: 09/20/06 18:08Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	93	79	119	
460-00-4	4-Bromofluorobenzene	116	75	115	*

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
10-4-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6264349  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090642  
Lab Sample ID: D61160210-040  
Lab WorkOrder: JEGE31AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 09:22  
Date/Time Analyzed: 09/20/06 18:32  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	97	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	115	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*10-9-06*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6I160210Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6264349Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06090643Lab Sample ID: D6I160210-041Lab WorkOrder: JEGE41ADDate/Time Collected: 09/15/06 00:00Date/Time Received: 09/16/06 08:54

Date Leached:

Date/Time Extracted: 09/20/06 09:22Date/Time Analyzed: 09/20/06 18:55Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	90	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	116	75	115	*

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6264349  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090644  
Lab Sample ID: D61160210-042  
Lab WorkOrder: JE6E61AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 09:22  
Date/Time Analyzed: 09/20/06 19:19  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	97	65	126	
2037-26-5	Toluene-d8	96	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	116	75	115	*

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
10-9-06

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D61160210  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6264349  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06090645  
Lab Sample ID: D61160210-043  
Lab WorkOrder: JEGE71AD  
Date/Time Collected: 09/15/06 00:00  
Date/Time Received: 09/16/06 08:54  
Date Leached:  
Date/Time Extracted: 09/20/06 09:22  
Date/Time Analyzed: 09/20/06 19:43  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	97	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	116	75	115	*

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
10/9/06





# ecology and environment, inc.

International Specialists in the Environment

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## MEMORANDUM

DATE: January 19, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *mw*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 33 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

06121019	06121020	06121021	06120922	06120923
06120924	06120925	06121030	06121031	06121032
06121033	06121034	06121035	06121036	06121037
06121038	06121039	06121040	06121041	06121042
06121043	06121044	06121045	06121046	06121047
06121048	06121049	06121050	06121053	06121054
06121055	06121056	06121060		

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected between December 14 and 16, 2006, were extracted for NDMA analysis on December 28, 2006, and were analyzed for NDMA by January 10, 2007, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Acceptable.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 50%.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Acceptable.**

MS, MSD and LCS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the batch KWG0700499 MS and MSD recoveries each with a low recovery. No action was taken based on this batch QC outlier alone.

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121019  
Lab Code: K0611004-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	01/09/07	Acceptable

MW  
HQ-07

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121020  
Lab Code: K0611004-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	01/09/07	Acceptable

Comments:

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/06030009  
**Sample Matrix:** Water

**Service Request:** K0611004  
**Date Collected:** 12/14/2006  
**Date Received:** 12/16/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121021  
**Lab Code:** K0611004-003  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	01/09/07	Acceptable

mw  
1-9-07

**Comments:** \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121022  
Lab Code: K0611004-004  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	01/09/07	Acceptable

MW  
1-9-07

Comments: \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121023  
Lab Code: K0611004-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	01/10/07	Acceptable

*MW*  
*Hg-07*

Comments:

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121024  
Lab Code: K0611004-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	93	70-130	01/10/07	Acceptable

mw  
H907

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121025  
Lab Code: K0611004-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	91	70-130	01/10/07	Acceptable

MW  
H2O7

Comments:

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/06030009  
**Sample Matrix:** Water

**Service Request:** K0611004  
**Date Collected:** 12/14/2006  
**Date Received:** 12/16/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121030  
**Lab Code:** K0611004-008  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	93	70-130	01/10/07	Acceptable

*MW*  
*H907*

**Comments:** \_\_\_\_\_

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/06030009  
**Sample Matrix:** Water

**Service Request:** K0611004  
**Date Collected:** 12/14/2006  
**Date Received:** 12/16/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121031  
**Lab Code:** K0611004-009  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	01/10/07	Acceptable

*mw*  
*HQ-07*

**Comments:** \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121032  
Lab Code: K0611004-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	01/10/07	Acceptable

*mn*  
*7/9-07*

Comments: \_\_\_\_\_



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121033  
Lab Code: K0611004-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	83	70-130	01/10/07	Acceptable

*mw*  
*H9-07*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121034  
Lab Code: K0611004-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	01/10/07	Acceptable

*mw*  
*1/9/07*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121035  
Lab Code: K0611004-013

Units: ng/L  
Basis: NA

Extraction Method: METHOD  
Analysis Method: 521

Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	82	70-130	01/10/07	Acceptable

mw  
1-19-07

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121036  
Lab Code: K0611004-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	79	70-130	01/10/07	Acceptable

mw  
H9-07

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121037  
Lab Code: K0611004-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	01/10/07	Acceptable

Comments: \_\_\_\_\_

MM  
H9-07

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121038  
Lab Code: K0611004-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	01/10/07	Acceptable

*MW*  
*H9-07*

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121039  
Lab Code: K0611004-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	94	70-130	01/10/07	Acceptable

MW  
Hq-07

Comments:



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121040  
Lab Code: K0611004-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	01/10/07	Acceptable

Comments:

MW  
H9-07

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121041  
Lab Code: K0611004-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	01/10/07	Acceptable

*mw*  
*1-19-07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121042  
Lab Code: K0611004-020  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	01/10/07	Acceptable

*Handwritten signature: M W Hao*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121043  
Lab Code: K0611004-021  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	01/10/07	Acceptable

*mm*  
*1-10-07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/15/2006  
Date Received: 12/21/2006

## Nitrosamines by EPA 521

Sample Name: 06121044  
Lab Code: K0611004-033  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	92	70-130	01/10/07	Acceptable

MW  
1-19-07

Comments:

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121045  
Lab Code: K0611004-022  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	01/10/07	Acceptable

MW  
1-19-07

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121046  
Lab Code: K0611004-023  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	97	70-130	01/10/07	Acceptable

MW  
HQ-07

Comments: \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121047  
Lab Code: K0611004-024  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	01/10/07	Acceptable

MW  
1-10-07

Comments:

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121048  
Lab Code: K0611004-025  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	01/10/07	Acceptable

*mw*  
*HA-07*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121049  
Lab Code: K0611004-026  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	01/10/07	Acceptable

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/14/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121050  
Lab Code: K0611004-027  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	97	70-130	01/10/07	Acceptable

mw  
H207

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/15/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121053  
Lab Code: K0611004-028  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	01/10/07	Acceptable

MW  
H907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/15/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121054  
Lab Code: K0611004-029  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	01/10/07	Acceptable

*mn*  
*H9-07*

Comments: \_\_\_\_\_

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/15/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121055  
Lab Code: K0611004-030  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	01/10/07	Acceptable

MW  
Hart

Comments:



## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/15/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121056  
Lab Code: K0611004-031  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	01/10/07	Acceptable

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/06030009  
Sample Matrix: Water

Service Request: K0611004  
Date Collected: 12/15/2006  
Date Received: 12/16/2006

## Nitrosamines by EPA 521

Sample Name: 06121060  
Lab Code: K0611004-032  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/10/07	KWG0700501	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	100	70-130	01/10/07	Acceptable

mw  
H9-07

Comments: \_\_\_\_\_



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International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: January 19, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 7 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

06121016	06121017	06121018	06121026	06121027
06121028	06121029			

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$  except one cooler which was received at  $1.3^{\circ}\text{C}$ ; no action was taken based on this slight discrepancy. The samples were collected on December 14, 2006, were extracted for NDMA analysis on December 28, 2006, and were analyzed for NDMA by January 9, 2007, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Acceptable.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 50%.

#### 4. Blanks: Acceptable.

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Satisfactory.**

MS, MSD and LCS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the MS and MSD recoveries for sample 06121028, each with a low recovery. The sample quantitation limit for this sample was qualified as an estimated quantity (UJ).

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0610963  
Date Collected: 12/14/2006  
Date Received: 12/15/2006

## Nitrosamines by EPA 521

Sample Name: 06121016  
Lab Code: K0610963-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	01/09/07	Acceptable

Comments:

MW  
1/9/07

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/Site #06030009  
**Sample Matrix:** Water

**Service Request:** K0610963  
**Date Collected:** 12/14/2006  
**Date Received:** 12/15/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121017  
**Lab Code:** K0610963-002  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	91	70-130	01/09/07	Acceptable

mw  
H9-07

**Comments:** \_\_\_\_\_

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/Site #06030009  
**Sample Matrix:** Water

**Service Request:** K0610963  
**Date Collected:** 12/14/2006  
**Date Received:** 12/15/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121018  
**Lab Code:** K0610963-003  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0 U	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	79	70-130	01/09/07	Acceptable

Comments: \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/Site #06030009  
**Sample Matrix:** Water

**Service Request:** K0610963  
**Date Collected:** 12/14/2006  
**Date Received:** 12/15/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121026  
**Lab Code:** K0610963-005  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	01/09/07	Acceptable

MW  
1-19-07

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/Site #06030009  
**Sample Matrix:** Water

**Service Request:** K0610963  
**Date Collected:** 12/14/2006  
**Date Received:** 12/15/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121027  
**Lab Code:** K0610963-006  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	01/09/07	Acceptable

*mw*  
*H/07*

**Comments:** \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0610963  
Date Collected: 12/14/2006  
Date Received: 12/15/2006

## Nitrosamines by EPA 521

Sample Name: 06121028  
Lab Code: K0610963-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	92	70-130	01/09/07	Acceptable

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

**Client:** Ecology And Environment, Incorporated  
**Project:** NDMA/Site #06030009  
**Sample Matrix:** Water

**Service Request:** K0610963  
**Date Collected:** 12/14/2006  
**Date Received:** 12/15/2006

## Nitrosamines by EPA 521

**Sample Name:** 06121029  
**Lab Code:** K0610963-004  
**Extraction Method:** METHOD  
**Analysis Method:** 521

**Units:** ng/L  
**Basis:** NA  
**Level:** Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	12/28/06	01/09/07	KWG0700499	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	01/09/07	Acceptable

mmw  
1-19-07

**Comments:**



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## MEMORANDUM

DATE: January 18, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington MW

SUBJ: Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of 51 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260) and perchlorate (EPA SW-846 Method 6860/STL-Denver SOP DEN LC-0024) analysis were performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

06121004	06121005	06121006	06121007	06121008	06121009
06121010	06121011	06121012	06121013	06121014	06121015
06121016	06121017	06121018	06121019	06121020	06121021
06121022	06121023	06121024	06121025	06121026	06121027
06121028	06121029	06121030	06121031	06121032	06121033
06121034	06121035	06121036	06121037	06121038	06121039
06121040	06121041	06121042	06121043	06121044	06121045
06121046	06121047	06121048	06121049	06121050	06121051
06121052	06121056	06121057			

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , with sample coolers received at  $5.1^{\circ}\text{C}$ ,  $5.3^{\circ}\text{C}$ ,  $5.4^{\circ}\text{C}$ ,  $5.1^{\circ}\text{C}$ ,  $5.0^{\circ}\text{C}$ ,  $5.2^{\circ}\text{C}$ , and  $4.3^{\circ}\text{C}$ . The samples were collected between December 13 and 15, 2006, were extracted for perchlorate analysis by January 5, 2007, and were analyzed for TCE by December 20, 2006, and for perchlorate by January 8, 2007, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE and less than 28 days between collection and analysis for perchlorate.

#### 2. Tuning (TCE analysis only): Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

**3. Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%. The correlation coefficients for perchlorate was greater than 0.995.

**4. Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%. All initial and continuing calibration verifications for perchlorate were within QC limits.

**5. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank that affected sample results.

**6. System Monitoring Compounds (SMCs; TCE only): Acceptable.**

All applicable SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Acceptable.**

MS, MSD, BS and BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**9. Internal Standards (TCE only): Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

## 12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 7002187  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06121019  
Lab Sample ID: D6L180189-016  
Lab WorkOrder: JLPM31AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/02/07 10:37  
Date/Time Analyzed: 01/05/07 21:04  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.39	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

1-18-07

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 7002187  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06121020  
Lab Sample ID: D6L180189-017  
Lab WorkOrder: ILPM51AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/02/07 10:37  
Date/Time Analyzed: 01/05/07 22:30  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0093	0.0088	0.010	<i>shu</i>

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*mw*  
*H2-07*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: µg/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121021  
 Lab Sample ID: D6L180189-018  
 Lab WorkOrder: JLPM61AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/05/07 22:59  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.49	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
12-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D6L180189

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: LC-0024

Unit: ug/L

QC Batch ID: 7002187

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 06121022

Lab Sample ID: D6L180189-019

Lab WorkOrder: JLPM71AA

Date/Time Collected: 12/13/06 00:00

Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/02/07 10:37

Date/Time Analyzed: 01/07/07 00:55

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.044	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
H1887

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7002187Sample Aliquot: 5 mLDilution Factor: 10Client Sample ID: 06121023Lab Sample ID: D6L180189-020Lab WorkOrder: JLPM81AADate/Time Collected: 12/13/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/02/07 10:37Date/Time Analyzed: 01/07/07 01:23Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.1	0.088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
H207

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121024  
 Lab Sample ID: D6L180189-021  
 Lab WorkOrder: JLPNA1AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 00:25  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*H8-07*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121025  
 Lab Sample ID: D6L180189-022  
 Lab WorkOrder: JLPNDIAA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:   
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 09:06  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.62	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*HB-07*



Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121029  
 Lab Sample ID: D6L180189-026  
 Lab WorkOrder: JLPNJ1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 09:34  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.57	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature and date: 12-07*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121030  
 Lab Sample ID: D6L180189-027  
 Lab WorkOrder: JLPNK1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 10:03  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.62	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*118-07*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121031  
 Lab Sample ID: D6L180189-028  
 Lab WorkOrder: JLPNM1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 10:32  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.53	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mm  
1/8/07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 10

Client Sample ID: 06121032  
 Lab Sample ID: D6L180189-029  
 Lab WorkOrder: JLPNN1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 11:01  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.3	0.088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*118-07*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121033  
 Lab Sample ID: D6L180189-030  
 Lab WorkOrder: JLPNQ1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 11:29  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.85	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature/initials*  
 H-07

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 7002187  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06121034  
Lab Sample ID: D6L180189-031  
Lab WorkOrder: JLPNR1AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/02/07 10:37  
Date/Time Analyzed: 01/06/07 11:58  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.017	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
HB07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121035  
 Lab Sample ID: D6L180189-032  
 Lab WorkOrder: JLPNT1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 12:27  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.70	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*1-18-07*



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7002187  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121036  
 Lab Sample ID: D6L180189-033  
 Lab WorkOrder: JLPNV1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/02/07 10:37  
 Date/Time Analyzed: 01/06/07 12:56  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.23	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mm  
H18-07

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7005372  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121037  
 Lab Sample ID: D6L180189-034  
 Lab WorkOrder: JLPNW1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/05/07 16:48  
 Date/Time Analyzed: 01/06/07 15:19  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.25	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mu  
718-07

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: ug/L  
 QC Batch ID: 7005372  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121038  
 Lab Sample ID: D6L180189-035  
 Lab WorkOrder: JLPNX1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/05/07 16:48  
 Date/Time Analyzed: 01/06/07 16:46  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

  
 HB-07

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 7005372  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 06121039  
Lab Sample ID: D6L180189-036  
Lab WorkOrder: JLPN01AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/05/07 16:48  
Date/Time Analyzed: 01/08/07 13:21  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.6	0.044	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
11807

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06121040Lab Sample ID: D6L180189-037Lab WorkOrder: JLPN1JAADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/06/07 17:43Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
H807

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06121041Lab Sample ID: D6L180189-038Lab WorkOrder: JLPN21AADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/08/07 13:50Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.044	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
H1807

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06121042Lab Sample ID: D6L180189-039Lab WorkOrder: JLPN41AADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/06/07 19:38Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.043	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
H18-07



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06121043Lab Sample ID: D6L180189-040Lab WorkOrder: JLPN71AADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/06/07 20:07Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.30	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

**Ecology and Environment, Inc.**  
**Analysis Data Sheet**

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 7005372  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06121044  
Lab Sample ID: D6L180189-041  
Lab WorkOrder: ILPPA1AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/05/07 16:48  
Date/Time Analyzed: 01/06/07 20:36  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.53	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*HP07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: ug/L  
QC Batch ID: 7005372  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06121045  
Lab Sample ID: D6L180189-042  
Lab WorkOrder: ILPPD1AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/05/07 16:48  
Date/Time Analyzed: 01/06/07 21:05  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*H18-07*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: LC-0024  
 Unit: µg/L  
 QC Batch ID: 7005372  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 06121046  
 Lab Sample ID: D6L180189-043  
 Lab WorkOrder: JLPPF1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 01/05/07 16:48  
 Date/Time Analyzed: 01/06/07 21:33  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.68	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*H8-07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 5Client Sample ID: 06121047Lab Sample ID: D6L180189-044Lab WorkOrder: JLPPG1AADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

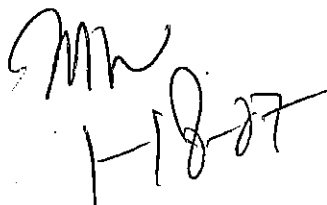
Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/08/07 14:19Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.044	0.050	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: LC-0024  
Unit: µg/L  
QC Batch ID: 7005372  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 06121048  
Lab Sample ID: D6L180189-045  
Lab WorkOrder: JLPPH1AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 01/05/07 16:48  
Date/Time Analyzed: 01/06/07 22:31  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*1/8-07*

**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06121049Lab Sample ID: D6L180189-046Lab WorkOrder: JLPPJ1AADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/06/07 23:00Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.010	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).



Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: LC-0024Unit: ug/LQC Batch ID: 7005372Sample Aliquot: 5 mLDilution Factor: 1Client Sample ID: 06121050Lab Sample ID: D6L180189-047Lab WorkOrder: JLPPK1AADate/Time Collected: 12/15/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 01/05/07 16:48Date/Time Analyzed: 01/06/07 23:28Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.078	0.0088	0.010	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

mw  
1-18-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360083  
 Sample Aliquot: 4 mL  
 Dilution Factor: 5

Client Sample ID: 06121004  
 Lab Sample ID: D6L180189-001  
 Lab WorkOrder: JLPME1AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:   
 Date/Time Extracted: 12/20/06 07:57  
 Date/Time Analyzed: 12/20/06 10:29  
 Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	160	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	75	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MK  
H/Q-07

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 10 mL  
Dilution Factor: 2

Client Sample ID: 06121005  
Lab Sample ID: D6L180189-002  
Lab WorkOrder: JLPMG1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 10:53  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	77	0.32	2.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	87	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MR  
H8-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121006  
Lab Sample ID: D6L180189-003  
Lab WorkOrder: JLPMH1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 11:17  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	79	65	126	
2037-26-5	Toluene-d8	89	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*M*  
*H807*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360083  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121007  
 Lab Sample ID: D6L180189-004  
 Lab WorkOrder: JLPMJ1AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:   
 Date/Time Extracted: 12/20/06 07:57  
 Date/Time Analyzed: 12/20/06 11:40  
 Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	86	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*Mw*  
*H8-07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121008  
Lab Sample ID: D6L180189-005  
Lab WorkOrder: JLPMK1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 12:04  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	6.8	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	87	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

mw  
H8-07

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 4 mL  
Dilution Factor: 5

Client Sample ID: 06121009  
Lab Sample ID: D6L180189-006  
Lab WorkOrder: JLPML1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 12:28  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	150	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	83	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	89	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*H807*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 4 mL  
Dilution Factor: 5

Client Sample ID: 06121010  
Lab Sample ID: D6L180189-007  
Lab WorkOrder: JLPMM1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 13:01  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	190	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	86	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

mw  
H807

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121011  
Lab Sample ID: D6L180189-008  
Lab WorkOrder: JLPMN1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 13:25  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	89	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*H807*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121012  
Lab Sample ID: D6L180189-009  
Lab WorkOrder: JLPMP1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 13:49  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	77	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	87	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*H1807*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360083  
 Sample Aliquot: 4 mL  
 Dilution Factor: 5

Client Sample ID: 06121013  
 Lab Sample ID: D6L180189-010  
 Lab WorkOrder: JLPMQ1AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:   
 Date/Time Extracted: 12/20/06 07:57  
 Date/Time Analyzed: 12/20/06 14:38  
 Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	110	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	84	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	89	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

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H18-07

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121014  
Lab Sample ID: D6L180189-011  
Lab WorkOrder: JLPMR1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 15:02  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	84	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MW  
H18-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360083  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121015  
 Lab Sample ID: D6L180189-012  
 Lab WorkOrder: JLPMW1AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 07:57  
 Date/Time Analyzed: 12/20/06 15:25  
 Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	89	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*H807*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121016  
Lab Sample ID: D6L180189-013  
Lab WorkOrder: JLPMX1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 15:49  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	90	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MW  
F1807



Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121017  
Lab Sample ID: D6L180189-014  
Lab WorkOrder: JLPM01AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 16:13  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	79	65	126	
2037-26-5	Toluene-d8	89	78	118	
1868-53-7	Dibromofluoromethane	89	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MW  
H2O

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360087  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121018  
 Lab Sample ID: D6L180189-015  
 Lab WorkOrder: JLPM21AA  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 08:37  
 Date/Time Analyzed: 12/20/06 10:31  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	74	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	81	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

*MN*  
*H/87*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121019  
Lab Sample ID: D6L180189-016  
Lab WorkOrder: JLPM31AC  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 10:55  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	72	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	80	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

MW  
HB-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360087  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121020  
 Lab Sample ID: D6L180189-017  
 Lab WorkOrder: JLPM51AC  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 08:37  
 Date/Time Analyzed: 12/20/06 11:16  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	83	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*H/B-07*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121021  
Lab Sample ID: D6L180189-018  
Lab WorkOrder: JLPM61AC  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 11:37  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	80	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

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Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360087  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121022  
 Lab Sample ID: D6L180189-019  
 Lab WorkOrder: JLPM71AC  
 Date/Time Collected: 12/13/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 08:37  
 Date/Time Analyzed: 12/20/06 11:57  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	83	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*H8-07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121023  
Lab Sample ID: D6L180189-020  
Lab WorkOrder: JLPM81AC  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 12:18  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	82	79	119	
460-00-4	4-Bromofluorobenzene	92	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*H1807*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121024  
Lab Sample ID: D6L180189-021  
Lab WorkOrder: JLPNA1AC  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 12:39  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

U Result is less than the method detection limit (MDL).

mw  
7/8/07

## Ecology and Environment, Inc.

## Analysis Data Sheet

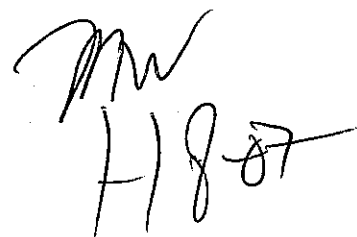
Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121025  
Lab Sample ID: D6L180189-022  
Lab WorkOrder: JLPND1AC  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 13:00  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	87	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	86	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121026  
Lab Sample ID: D6L180189-023  
Lab WorkOrder: JLPNEIAA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 13:21  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	83	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

MW  
H18-07

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360087  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121027  
Lab Sample ID: D6L180189-024  
Lab WorkOrder: ILPNG1AA  
Date/Time Collected: 12/13/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 13:41  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	83	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	92	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*1/18/07*

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6360088Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06121028Lab Sample ID: D6L180189-025Lab WorkOrder: JLPNH1AADate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 12/20/06 08:37Date/Time Analyzed: 12/20/06 14:02Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	84	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

Handwritten signature and initials, possibly "mm" and "H/Bo".

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360088  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121029  
Lab Sample ID: D6L180189-026  
Lab WorkOrder: JLPNJ1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 15:46  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	83	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*HJ-07*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360088  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121030  
 Lab Sample ID: D6L180189-027  
 Lab WorkOrder: JLPNK1AC  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:   
 Date/Time Extracted: 12/20/06 08:37  
 Date/Time Analyzed: 12/20/06 16:06  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	84	65	126	
2037-26-5	Toluene-d8	101	78	118	
1868-53-7	Dibromofluoromethane	84	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature: MW HJ-07*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6360088Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06121031Lab Sample ID: D6L180189-028Lab WorkOrder: ILPNM1ACDate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

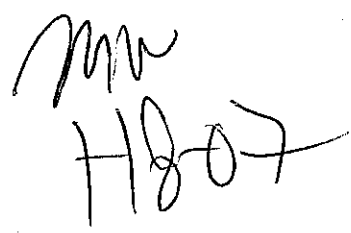
Date Leached:

Date/Time Extracted: 12/20/06 08:37Date/Time Analyzed: 12/20/06 16:27Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	100	78	118	
1868-53-7	Dibromofluoromethane	82	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360088  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121032  
Lab Sample ID: D6L180189-029  
Lab WorkOrder: JLPNN1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 16:48  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	83	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360088  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121033  
Lab Sample ID: D6L180189-030  
Lab WorkOrder: ILPNO1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 17:09  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	84	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

U Result is less than the method detection limit (MDL).

MW  
H1207

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360088  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121034  
Lab Sample ID: D6L180189-031  
Lab WorkOrder: JLPNR1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 17:29  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	97	78	118	
1868-53-7	Dibromofluoromethane	83	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

MW  
H8-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360088  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121035  
 Lab Sample ID: D6L180189-032  
 Lab WorkOrder: JLPNTIAC  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 08:37  
 Date/Time Analyzed: 12/20/06 17:50  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	83	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*H18-07*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360088  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121036  
Lab Sample ID: D6L180189-033  
Lab WorkOrder: JLPNVIAC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 08:37  
Date/Time Analyzed: 12/20/06 18:11  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	84	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

MW  
H1807

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6360088  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121037  
 Lab Sample ID: D6L180189-034  
 Lab WorkOrder: JLPNW1AC  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 08:37  
 Date/Time Analyzed: 12/20/06 18:31  
 Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	98	78	118	
1868-53-7	Dibromofluoromethane	86	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*11807*



**STL**

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121038  
Lab Sample ID: D6L180189-035  
Lab WorkOrder: JLPNX1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 17:24  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	84	65	126	
2037-26-5	Toluene-d8	93	78	118	
1868-53-7	Dibromofluoromethane	91	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MW  
H18-07

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121039  
Lab Sample ID: D6L180189-036  
Lab WorkOrder: JLPN01AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 17:47  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	79	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	88	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

MN  
H18-07

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6360083Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06121040Lab Sample ID: D6L180189-037Lab WorkOrder: JLPN11ACDate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

Date Leached:

Date/Time Extracted: 12/20/06 07:57Date/Time Analyzed: 12/20/06 18:11Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	81	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	86	79	119	
460-00-4	4-Bromofluorobenzene	93	75	115	

U Result is less than the method detection limit (MDL).

mm  
HfB-07

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6360083  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121041  
Lab Sample ID: D6L180189-038  
Lab WorkOrder: JLPN21AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 07:57  
Date/Time Analyzed: 12/20/06 18:35  
Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	78	65	126	
2037-26-5	Toluene-d8	88	78	118	
1868-53-7	Dibromofluoromethane	85	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*118-07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVERLot/SDG Number: D6L180189Matrix: WATER% Moisture: N/ABasis: WetAnalysis Method: 8260BUnit: ug/LQC Batch ID: 6360083Sample Aliquot: 20 mLDilution Factor: 1Client Sample ID: 06121042Lab Sample ID: D6L180189-039Lab WorkOrder: JLPN41ACDate/Time Collected: 12/14/06 00:00Date/Time Received: 12/16/06 09:00

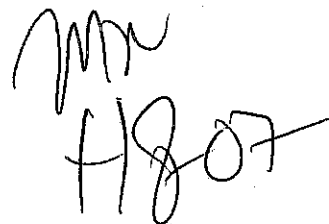
Date Leached:

Date/Time Extracted: 12/20/06 07:57Date/Time Analyzed: 12/20/06 18:59Instrument ID: E

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	80	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	87	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121043  
Lab Sample ID: D6L180189-040  
Lab WorkOrder: JLPN71AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 13:27  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	98	65	126	
2037-26-5	Toluene-d8	85	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	88	75	115	

U Result is less than the method detection limit (MDL).

mm  
HB-07

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121044  
Lab Sample ID: D6L180189-041  
Lab WorkOrder: JLPPA1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 13:49  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	92	75	115	

U Result is less than the method detection limit (MDL).

mw  
1-18-07



Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121045  
Lab Sample ID: D6L180189-042  
Lab WorkOrder: JLPPDIAC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 14:57  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	93	78	118	
1868-53-7	Dibromofluoromethane	109	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

MW  
718-07

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: µg/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121046  
Lab Sample ID: D6L180189-043  
Lab WorkOrder: JLPPFIAC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 15:20  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121047  
Lab Sample ID: D6L180189-044  
Lab WorkOrder: JLPPGIAC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 15:42  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	97	65	126	
2037-26-5	Toluene-d8	87	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

MW  
H807

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121048  
Lab Sample ID: D6L180189-045  
Lab WorkOrder: JLPPH1AC  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 16:05  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	100	65	126	
2037-26-5	Toluene-d8	88	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*Hg-a*

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6355275  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121049  
 Lab Sample ID: D6L180189-046  
 Lab WorkOrder: JLPPJ1AC  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:   
 Date/Time Extracted: 12/20/06 09:54  
 Date/Time Analyzed: 12/20/06 16:27  
 Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	88	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*118-07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121050  
Lab Sample ID: D6L180189-047  
Lab WorkOrder: JLPPK1AC  
Date/Time Collected: 12/15/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 16:50  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	103	65	126	
2037-26-5	Toluene-d8	86	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	87	75	115	

U Result is less than the method detection limit (MDL).

mm  
1/8-07

Ecology and Environment, Inc.

Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D6L180189  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 8260B  
 Unit: ug/L  
 QC Batch ID: 6355275  
 Sample Aliquot: 20 mL  
 Dilution Factor: 1

Client Sample ID: 06121051  
 Lab Sample ID: D6L180189-048  
 Lab WorkOrder: JLPPL1AA  
 Date/Time Collected: 12/14/06 00:00  
 Date/Time Received: 12/16/06 09:00  
 Date Leached:  
 Date/Time Extracted: 12/20/06 09:54  
 Date/Time Analyzed: 12/20/06 17:12  
 Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.32	0.16	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

- U Result is less than the method detection limit (MDL).  
 J Estimated result. Result is less than RL.

*mm*  
*H/B of*



## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121052  
Lab Sample ID: D6L180189-049  
Lab WorkOrder: JLPPM1AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 17:35  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	100	65	126	
2037-26-5	Toluene-d8	85	78	118	
1868-55-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	85	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*H18-07*

Ecology and Environment, Inc.  
Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: µg/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121056  
Lab Sample ID: D6L180189-050  
Lab WorkOrder: JLPPN1AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:   
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 17:57  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	101	65	126	
2037-26-5	Toluene-d8	90	78	118	
1868-53-7	Dibromofluoromethane	103	79	119	
460-00-4	4-Bromofluorobenzene	91	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*H8-07*

## Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D6L180189  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 6355275  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 06121057  
Lab Sample ID: D6L180189-051  
Lab WorkOrder: JLPP01AA  
Date/Time Collected: 12/14/06 00:00  
Date/Time Received: 12/16/06 09:00  
Date Leached:  
Date/Time Extracted: 12/20/06 09:54  
Date/Time Analyzed: 12/20/06 18:20  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	91	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*mm*  
*H1807*



# ecology and environment, inc.

International Specialists in the Environment

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Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: May 7, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 20 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260) was performed by STL-Denver, Inc., Arvada, Colorado.

The samples were numbered:

07040101	07040102	07040103	07040104	07040105
07040106	07040108	07040109	07040110	07040111
07040112	07040113	07040114	07040115	07040116
07040117	07040118	07040119	07040120	07040121

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on April 16, 2007, and were analyzed for TCE by April 22, 2007, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. Initial Calibration: Acceptable.

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 4. Continuing Calibration: Acceptable.

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%.

**5. Blanks: Acceptable.**

Method blanks were analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Acceptable.**

All SMC recoveries were within QC limits except toluene-d8 in sample 07040106 with a high recovery. No action was taken based on this high outlier as TCE was not detected in sample 07040106.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Satisfactory.**

MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits for sample 07040101 but the recoveries were high for sample 07040118. The TCE result in sample 07040118 was qualified as an estimated quantity (J).

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040101  
Lab Sample ID: D7D170311-001  
Lab WorkOrder: JT3W41AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 11:34  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	3.4	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	112	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*5-7-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7D170311

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7112010

Sample Aliquot: 2.5 mL

Dilution Factor: 8

Client Sample ID: 07040102

Lab Sample ID: D7D170311-002

Lab WorkOrder: JT3W51AA

Date/Time Collected: 04/16/07 00:00

Date/Time Received: 04/17/07 08:45

Date Leached:

Date/Time Extracted: 04/20/07 09:31

Date/Time Analyzed: 04/20/07 19:15

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	170	1.3	8.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature/initials*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 2 mL  
Dilution Factor: 10

Client Sample ID: 07040103  
Lab Sample ID: D7D170311-003  
Lab WorkOrder: JT3W61AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 19:36  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	200	1.6	10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	115	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*5-7-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 2 mL  
Dilution Factor: 10

Client Sample ID: 07040104  
Lab Sample ID: D7D170311-004  
Lab WorkOrder: JT3W81AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 19:56  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	150	1.6	10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	115	78	118	
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MW  
5-7-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040105  
Lab Sample ID: D7D170311-005  
Lab WorkOrder: JT3W91AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 12:58  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	12	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
1868-53-7	Dibromofluoromethane	114	79	119	
460-00-4	4-Bromofluorobenzene	100	75	115	
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	117	78	118	

U Result is less than the method detection limit (MDL).

*Handwritten signature:* MW  
5-7-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040106  
Lab Sample ID: D7D170311-006  
Lab WorkOrder: JT3XA1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 14:01  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	115	65	126	
2037-26-5	Toluene-d8	119	78	118	*
1868-53-7	Dibromofluoromethane	119	79	119	
460-00-4	4-Bromofluorobenzene	100	75	115	

U Result is less than the method detection limit (MDL).

\* Surrogate recovery is outside stated control limits.

MW  
5-7-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 2 mL  
Dilution Factor: 10

Client Sample ID: 07040108  
Lab Sample ID: D7D170311-008  
Lab WorkOrder: JT3XD1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 20:17  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	170	1.6	10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	114	65	126	
2037-26-5	Toluene-d8	115	78	118	
1868-53-7	Dibromofluoromethane	115	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature and initials*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 5 mL  
Dilution Factor: 4

Client Sample ID: 07040109  
Lab Sample ID: D7D170311-009  
Lab WorkOrder: IT3XF1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 20:39  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	77	0.64	4.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	111	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

Mw  
5-7-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040110  
Lab Sample ID: D7D170311-010  
Lab WorkOrder: JT3XG1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 15:03  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	112	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7D170311

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7112010

Sample Aliquot: 20 mL

Dilution Factor: 1

Client Sample ID: 07040111

Lab Sample ID: D7D170311-011

Lab WorkOrder: JT3XJ1AA

Date/Time Collected: 04/16/07 00:00

Date/Time Received: 04/17/07 08:45

Date Leached:

Date/Time Extracted: 04/20/07 09:31

Date/Time Analyzed: 04/20/07 15:24

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	108	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature and date:*  
5-7-07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7D170311

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7112033

Sample Aliquot: 4 mL

Dilution Factor: 5

Client Sample ID: 07040112

Lab Sample ID: D7D170311-012

Lab WorkOrder: JT3XL1AA

Date/Time Collected: 04/16/07 00:00

Date/Time Received: 04/17/07 08:45

Date Leached:

Date/Time Extracted: 04/22/07 06:11

Date/Time Analyzed: 04/22/07 08:56

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	120	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*5-7-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040113  
Lab Sample ID: D7D170311-013  
Lab WorkOrder: JT3XM1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:   
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 16:08  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	113	65	126	
2037-26-5	Toluene-d8	118	78	118	
1868-53-7	Dibromofluoromethane	116	79	119	
460-00-4	4-Bromofluorobenzene	100	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*57-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040114  
Lab Sample ID: D7D170311-014  
Lab WorkOrder: JT3XN1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 16:29  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	108	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature:* MN 57-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040115  
Lab Sample ID: D7D170311-015  
Lab WorkOrder: JT3XP1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 16:49  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	111	78	118	
1868-53-7	Dibromofluoromethane	111	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

MW  
57-01

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7D170311

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7112010

Sample Aliquot: 20 mL

Dilution Factor: 1

Client Sample ID: 07040116

Lab Sample ID: D7D170311-016

Lab WorkOrder: IT3X01AA

Date/Time Collected: 04/16/07 00:00

Date/Time Received: 04/17/07 08:45

Date Leached:

Date/Time Extracted: 04/20/07 09:31

Date/Time Analyzed: 04/20/07 17:10

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	112	78	118	
1868-53-7	Dibromofluoromethane	112	79	119	
460-00-4	4-Bromofluorobenzene	96	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature and date:*  
5-7-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040117  
Lab Sample ID: D7D170311-017  
Lab WorkOrder: JT3XR1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 17:31  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	108	78	118	
1868-53-7	Dibromofluoromethane	112	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

MW  
5-7-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7D170311

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7112033

Sample Aliquot: 4 mL

Dilution Factor: 5

Client Sample ID: 07040118

Lab Sample ID: D7D170311-018

Lab WorkOrder: JT3XT1AA

Date/Time Collected: 04/16/07 00:00

Date/Time Received: 04/17/07 08:45

Date Leached:

Date/Time Extracted: 04/22/07 06:11

Date/Time Analyzed: 04/22/07 09:17

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	70	J 0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	100	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

MW  
57-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040119  
Lab Sample ID: D7D170311-019  
Lab WorkOrder: JF3XV1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:  
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 18:13  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.21	0.16	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	110	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	115	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

MW  
57-07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7D170311  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7112010  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07040120  
Lab Sample ID: D7D170311-020  
Lab WorkOrder: JT3XW1AA  
Date/Time Collected: 04/16/07 00:00  
Date/Time Received: 04/17/07 08:45  
Date Leached:   
Date/Time Extracted: 04/20/07 09:31  
Date/Time Analyzed: 04/20/07 18:33  
Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	117	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	118	79	119	
460-00-4	4-Bromofluorobenzene	99	75	115	

U Result is less than the method detection limit (MDL).

MW  
57-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7D170311

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7112010

Sample Aliquot: 20 mL

Dilution Factor: 1

Client Sample ID: 07040121

Lab Sample ID: D7D170311-021

Lab WorkOrder: JT3XX1AA

Date/Time Collected: 04/16/07 00:00

Date/Time Received: 04/17/07 08:45

Date Leached:

Date/Time Extracted: 04/20/07 09:31

Date/Time Analyzed: 04/20/07 18:54

Instrument ID: P

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	17	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	111	65	126	
2037-26-5	Toluene-d8	111	78	118	
1868-53-7	Dibromofluoromethane	113	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*57-07*



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## MEMORANDUM

DATE: June 30, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-09-0002

PAN: 002233.0117.01SF

The data quality assurance review of 17 soil gas module samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Volatile organic compound (VOC) analysis (modified EPA SW-846 Method 8260) was performed by the Gore Screening Modules Laboratory, Elkton, Massachusetts.

The samples were numbered:

07050001	07050002	07050003	07050004	07050005
07050006	07050007	07050008	07050009	07050010
07050011	07050012	07050013	07050014	07050015
07050017	07050018			

Sample number 07050016 was not retrieved and was not submitted.

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were installed on May 23, 2007, were collected on June 10, 2007, and were analyzed by June 13, 2007, therefore meeting QC criteria of less than 7 days between collection and analysis for VOCs.

#### 2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. **Initial Calibration: Acceptable.**

All Relative Standard Deviations (RSDs) were less than the QC limits of 25%.

#### 4. **Continuing Calibration: Acceptable.**

All % differences were less than the QC limit of 25%.

**5. Blanks: Acceptable.**

Method blanks were analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Not Required.**

SMCs are not required for this method.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Not Required.**

MS/MSD analyses are not required for this method.

**8. Duplicate Analysis: Not Required.**

Duplicates are not required for this method.

**9. Internal Standards: Not Required.**

Internal standards are not required for this method.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

GORE(TM) SURVEYS ANALYTICAL RESULTS  
 ECOLOGY AND ENVIRONMENT, INC., SEATTLE, WA  
 GORE CHLORINATED VOCs (A10+VC)  
 EASTERN WASHINGTON TCE SITE  
 SITE DTC - PRODUCTION ORDER #13170676

DATE ANALYZED	SAMPLE NAME	CIBENZ, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
	MDL=	0.01		0.02	0.02	0.05	0.02	0.01	0.01	0.02
06-13-07	532142	0.010 nd	0.040 nd	0.020 nd	0.020 nd	0.050 nd	0.020 nd	0.010 nd	0.010 nd	0.020 nd
06-14-07	532143	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532144	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532145	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	532146	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532147	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	532149	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	532150	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532151	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532152	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532153	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532154	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532156	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532158	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532159	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	532160	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	532161	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	532148	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532155	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532162	nd	nd	nd	nd	nd	nd	nd	nd	bdl
06-14-07	532163	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-14-07	532164	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-13-07	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Standard Dev.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

GORE(TM) SURVEYS ANALYTICAL RESULTS  
 ECOLOGY AND ENVIRONMENT, INC., SEATTLE, WA  
 GORE CHLORINATED VOCs (A10+VC)  
 EASTERN WASHINGTON TCE SITE  
 SITE DTC - PRODUCTION ORDER #13170676

SAMPLE NAME	14DCB, ug	VC, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	1112TelCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.31	0.02	0.05	0.05	0.05	0.01	0.05	0.01	0.05
532142	0.01 U	nd	0.02 U	0.05 U	0.05 U	0.05 U	0.01 U	0.05 U	0.01 U	0.05 U
532143	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532144	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532145	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532146	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532147	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532149	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd
532150	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532151	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532152	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd
532153	nd	nd	nd	0.07	nd	nd	nd	nd	nd	nd
532154	nd	nd	nd	20	nd	nd	nd	nd	nd	nd
532156	nd	nd	nd	0.05 U	nd	nd	nd	nd	nd	nd
532158	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd
532159	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532160	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532161	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd
532148	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532155	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532162	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532163	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
532164	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.



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## MEMORANDUM

DATE: June 19, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-09-0002 PAN: 002233.0117.01SF

The data quality assurance review of three water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260) was performed by STL-Denver, Inc., Arvada, Colorado.

The samples were numbered: 07050200 07050201 07050202

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on May 23, 2007, and were analyzed for TCE on May 30, 2007, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE.

#### 2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. **Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 4. **Continuing Calibration: Acceptable.**

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%.

#### 5. **Blanks: Acceptable.**

Method blanks were analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Acceptable.**

All SMC recoveries were within QC limits.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7E240233  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7151270  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07050200  
Lab Sample ID: D7E240233-001  
Lab WorkOrder: IXMPE1AA  
Date/Time Collected: 05/23/07 00:00  
Date/Time Received: 05/24/07 08:45  
Date Leached:  
Date/Time Extracted: 05/30/07 06:37  
Date/Time Analyzed: 05/30/07 08:58  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.29	0.16	1.0	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	96	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	90	75	115	

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

MP 6-19-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7E240233  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7151270  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07050201  
Lab Sample ID: D7E240233-002  
Lab WorkOrder: JXMPH1AA  
Date/Time Collected: 05/23/07 00:00  
Date/Time Received: 05/24/07 08:45  
Date Leached:  
Date/Time Extracted: 05/30/07 06:37  
Date/Time Analyzed: 05/30/07 10:03  
Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	101	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

MW  
6/19-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7E240233

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7151270

Sample Aliquot: 20 mL

Dilution Factor: 1

Client Sample ID: 07050202

Lab Sample ID: D7E240233-003

Lab WorkOrder: JXMPK1AA

Date/Time Collected: 05/23/07 00:00

Date/Time Received: 05/24/07 08:45

Date Leached:

Date/Time Extracted: 05/30/07 06:37

Date/Time Analyzed: 05/30/07 10:24

Instrument ID: S

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	100	65	126	
2037-26-5	Toluene-d8	99	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	89	75	115	

U Result is less than the method detection limit (MDL).

MW  
6/9-07



# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104  
Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: July 9, 2007  
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*  
SUBJ: Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington  
REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 31 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

07060001	07060002	07060003	07060004	07060005	07060006
07060007	07060008	07060009	07060010	07060011	07060012
07060013	07060014	07060015	07060016	07060017	07060018
07060019	07060020	07060021	07060022	07060023	07060024
07060025	07060026	07060027	07060028	07060029	07060030
07060031					

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$  except two coolers which were received at  $1.8^{\circ}\text{C}$  and  $1.3^{\circ}\text{C}$ ; no action was taken based on these slight discrepancies. The samples were collected on June 11, 2007, were extracted for NDMA analysis on by June 14, 2007, and were analyzed for NDMA by June 28, 2007, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Acceptable.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 30% except one high outlier; no action was taken based on this outlier as all associated samples did not have a NDMA detection.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Satisfactory.**

MS, MSD and LCS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the MS and MSD recoveries for sample 07060021, each with a low recovery. The sample quantitation limit for this sample was qualified as an estimated quantity (UJ).

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

UJ - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/10/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060001  
Lab Code: K0704996-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/13/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	06/13/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/10/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060002  
Lab Code: K0704996-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/13/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	88	70-130	06/13/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060003  
Lab Code: K0704996-003  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/13/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	79	70-130	06/13/07	Acceptable

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7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060004  
Lab Code: K0704996-004  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	82	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060005  
Lab Code: K0704996-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/13/07	06/13/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	80	70-130	06/13/07	Acceptable

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7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060006  
Lab Code: K0704996-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/13/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	06/13/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060007  
Lab Code: K0704996-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/13/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	06/13/07	Acceptable

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7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060008  
Lab Code: K0704996-008  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	102	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060009  
Lab Code: K0704996-009  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	85	70-130	06/14/07	Acceptable

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7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060010  
Lab Code: K0704996-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	88	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060011  
Lab Code: K0704996-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	94	70-130	06/14/07	Acceptable

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*Handwritten date:* 7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060012  
Lab Code: K0704996-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	I	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	06/14/07	Acceptable

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7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060013  
Lab Code: K0704996-013  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	06/14/07	Acceptable

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*7/9/07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060014  
Lab Code: K0704996-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/14/07	Acceptable

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7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060015  
Lab Code: K0704996-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	93	70-130	06/14/07	Acceptable

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7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060016  
Lab Code: K0704996-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	96	70-130	06/14/07	Acceptable

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Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060017  
Lab Code: K0704996-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060018  
Lab Code: K0704996-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/14/07	Acceptable

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*7/9/07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060019  
Lab Code: K0704996-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/14/07	Acceptable

MW  
7/9/07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060020  
Lab Code: K0704996-020  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/13/07	06/14/07	KWG0707008	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060021  
Lab Code: K0704996-021  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U J	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	103	70-130	06/14/07	Acceptable

MW  
7/9/07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060022  
Lab Code: K0704996-022  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	103	70-130	06/14/07	Acceptable

MW  
7/9/07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060023  
Lab Code: K0704996-023  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.2	2.0	1.4	1	06/14/07	06/28/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	88	70-130	06/28/07	Acceptable

mw  
7/9/07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060024  
Lab Code: K0704996-024  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	88	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060025  
Lab Code: K0704996-025  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060026  
Lab Code: K0704996-026  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/14/07	Acceptable

Comments:

MW  
7-9-07

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060027  
Lab Code: K0704996-027  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	06/14/07	Acceptable

MW  
7-4-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060028  
Lab Code: K0704996-028  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/14/07	Acceptable

*MW*  
*7-9-07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060029  
Lab Code: K0704996-029  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/14/07	Acceptable

Comments: \_\_\_\_\_

MW  
7-8-07

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060030  
Lab Code: K0704996-030  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA/Site #06030009  
Sample Matrix: Water

Service Request: K0704996  
Date Collected: 06/11/2007  
Date Received: 06/12/2007

## Nitrosamines by EPA 521

Sample Name: 07060031  
Lab Code: K0704996-031  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1.4	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:



# ecology and environment, inc.

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## MEMORANDUM

DATE: July 9, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 28 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

07060032	07060033	07060034	07060035	07060036	07060037
07060038	07060039	07060040	07060041	07060042	07060043
07060044	07060045	07060046	07060047	07060048	07060049
07060050	07060051	07060052	07060053	07060054	07060055
07060056	07060057	07060058	07060059		

### Data Qualifications:

#### 1. Sample Holding Times: Satisfactory.

The samples were received at the laboratory between 5.9 °C and 7.3 °C, therefore some samples were slightly above the QC limits; no action was taken based on these slight discrepancies. The samples were collected on June 12, 2007, were extracted for NDMA analysis on June 14 or 15, 2007, and were analyzed for NDMA by June 26, 2007, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Satisfactory.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 30% except the June 14 calibration at 2031 with a high recovery. No action was taken based on this outlier as there were no positive sample results associated with the outlier.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Satisfactory.**

MS, MSD and LCS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the batch MS and MSD recoveries, each with a low recovery. Because the project-supplied MS and MSD and LCS recoveries were acceptable, no action was taken based on the batch MS and MSD outliers.

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060032  
Lab Code: K0705038-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	103	70-130	06/14/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060033  
Lab Code: K0705038-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	109	70-130	06/14/07	Acceptable

MN  
7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060034  
Lab Code: K0705038-003  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/14/07	Acceptable

mw  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060035  
Lab Code: K0705038-004  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/14/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	06/14/07	Acceptable

MW  
7-7-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060036  
Lab Code: K0705038-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/15/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	06/15/07	Acceptable

MN  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060037  
Lab Code: K0705038-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/15/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	96	70-130	06/15/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060038  
Lab Code: K0705038-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/15/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	109	70-130	06/15/07	Acceptable

MW  
7-4-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060039  
Lab Code: K0705038-008  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/15/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	106	70-130	06/15/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060040  
Lab Code: K0705038-009  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/14/07	06/15/07	KWG0707007	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	120	70-130	06/15/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060041  
Lab Code: K0705038-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	80	70-130	06/26/07	Acceptable

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060042  
Lab Code: K0705038-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	100	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060043  
Lab Code: K0705038-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	06/26/07	Acceptable

*MW*  
*7-9-07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060044  
Lab Code: K0705038-013  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060045  
Lab Code: K0705038-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060046  
Lab Code: K0705038-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	92	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060047  
Lab Code: K0705038-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	97	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060048  
Lab Code: K0705038-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	06/26/07	Acceptable

MW  
7/9/07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060049  
Lab Code: K0705038-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	06/26/07	Acceptable

MN  
7407

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060050  
Lab Code: K0705038-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	100	70-130	06/26/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060051  
Lab Code: K0705038-020  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060052  
Lab Code: K0705038-021  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060053  
Lab Code: K0705038-022  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	93	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060054  
Lab Code: K0705038-023  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	100	70-130	06/26/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060055  
Lab Code: K0705038-024  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	97	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060056  
Lab Code: K0705038-025  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/26/07	Acceptable

MW  
79.07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060057  
Lab Code: K0705038-026  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	104	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060058  
Lab Code: K0705038-027  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project:  
Sample Matrix: Water

Service Request: K0705038  
Date Collected: 06/12/2007  
Date Received: 06/13/2007

## Nitrosamines by EPA 521

Sample Name: 07060059  
Lab Code: K0705038-028  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/15/07	06/26/07	KWG0706721	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	91	70-130	06/26/07	Acceptable

*mm*  
*7-40*

Comments:



# ecology and environment, inc.

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## MEMORANDUM

DATE: July 9, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 32 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

07060060	07060061	07060062	07060063	07060064	07060065
07060066	07060067	07060068	07060069	07060070	07060071
07060072	07060073	07060074	07060075	07060076	07060077
07060078	07060079	07060080	07060081	07060082	07060083
07060084	07060085	07060086	07060087	07060088	07060089
07060090	07060091				

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were received at the laboratory between 5.5 °C and 7.6 °C, therefore some samples were slightly above the QC limits; no action was taken based on these slight discrepancies. The samples were collected on June 12, 2007, were extracted for NDMA analysis on June 21 or 22, 2007, and were analyzed for NDMA by June 28, 2007, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Acceptable.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 50%.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Satisfactory.**

MS, MSD and LCS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the MSD recovery for sample 07060061 and the MS recovery for sample 07060081, each with a low recovery. The sample quantitation limits for these samples were qualified as estimated quantities (UJ).

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

UJ - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060060  
Lab Code: K0705091-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	83	70-130	06/28/07	Acceptable

MW  
7-4-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060061  
Lab Code: K0705091-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND UJ	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060062  
Lab Code: K0705091-003  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	79	70-130	06/28/07	Acceptable

MR  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060063  
Lab Code: K0705091-004  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	79	70-130	06/28/07	Acceptable

AMW  
7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060064  
Lab Code: K0705091-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	85	70-130	06/28/07	Acceptable

mm  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060065  
Lab Code: K0705091-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	80	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060066  
Lab Code: K0705091-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060067  
Lab Code: K0705091-008  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	83	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060068  
Lab Code: K0705091-009  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	06/27/07	Acceptable

MM  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060069  
Lab Code: K0705091-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	94	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060070  
Lab Code: K0705091-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060071  
Lab Code: K0705091-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	06/28/07	Acceptable

MN  
7-907

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060072  
Lab Code: K0705091-013  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	91	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060073  
Lab Code: K0705091-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	85	70-130	06/28/07	Acceptable

*mm*  
*7-9-07*

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060074  
Lab Code: K0705091-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	06/28/07	Acceptable

MW  
7905

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060075  
Lab Code: K0705091-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060076  
Lab Code: K0705091-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.8	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060077  
Lab Code: K0705091-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	85	70-130	06/28/07	Acceptable

MW  
7407

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060078  
Lab Code: K0705091-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	78	70-130	06/28/07	Acceptable

*mw*  
*7/9/07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060079  
Lab Code: K0705091-020  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/21/07	06/28/07	KWG0706956	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	06/28/07	Acceptable

*Mm*  
*7-9-07*

Comments: \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060080  
Lab Code: K0705091-021  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	85	70-130	06/27/07	Acceptable

*mm*  
*7-9-07*

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060081  
Lab Code: K0705091-022  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U <i>J</i>	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/27/07	Acceptable

*MW*  
*7907*

Comments: \_\_\_\_\_

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060082  
Lab Code: K0705091-023  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	06/27/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060083  
Lab Code: K0705091-024  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/27/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060084  
Lab Code: K0705091-025  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060085  
Lab Code: K0705091-026  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	83	70-130	06/27/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060086  
Lab Code: K0705091-027  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060087  
Lab Code: K0705091-028  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	06/27/07	Acceptable

MA  
7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060088  
Lab Code: K0705091-029  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	88	70-130	06/27/07	Acceptable

*Mn*  
*7-9-07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060089  
Lab Code: K0705091-030  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	06/27/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060090  
Lab Code: K0705091-031  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	71	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705091  
Date Collected: 06/12/2007  
Date Received: 06/14/2007

## Nitrosamines by EPA 521

Sample Name: 07060091  
Lab Code: K0705091-032  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/27/07	Acceptable

Comments:

MN  
790



# ecology and environment, inc.

International Specialists in the Environment

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Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: July 11, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 32 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. N-nitrosodimethylamine (NDMA) analysis (EPA Method 521) analyses were performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered:

07060092	07060093	07060094	07060095	07060096	07060097
07060098	07060099	07060100	07060101	07060102	07060103
07060104	07060105	07060106	07060107	07060108	07060109
07060110	07060111	07060112	07060113	07060114	07060115
07060116	07060117	07060118	07060119	07060120	07060121
07060122	07060123				

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were received at the laboratory between 2.8 °C and 6.2 °C, therefore some samples were slightly above the QC limits; no action was taken based on these slight discrepancies. The samples were collected on June 14, 2007, were extracted for NDMA analysis on June 22, 25, or 27, 2007, and were analyzed for NDMA by June 28, 2007, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis for NDMA.

#### 2. Initial Calibration: Acceptable.

All NDMA average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All NDMA water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 3. Continuing Calibration: Acceptable.

All NDMA RRFs were greater than the QC limit of 0.050. All NDMA % differences were less than the QC limit of 50%.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. System Monitoring Compounds (SMCs): Acceptable.**

All applicable SMC recoveries were within QC limits.

**6. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Satisfactory.**

MS, MSD and LCS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the MS and MSD recoveries for samples 07060101 and 07060121 and the batch MS recovery, each with a low recovery. The sample quantitation limit for samples 07060101 and 07060121 were qualified as estimated quantities (UJ).

**7. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits.

**8. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**9. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**10. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**11. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

UJ - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060092  
Lab Code: K0705152-001  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060093  
Lab Code: K0705152-002  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	78	70-130	06/27/07	Acceptable

MW  
7-907

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060094  
Lab Code: K0705152-003  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	80	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060095  
Lab Code: K0705152-004  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	06/27/07	Acceptable

MW  
79-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060096  
Lab Code: K0705152-005  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	91	70-130	06/27/07	Acceptable

mw  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060097  
Lab Code: K0705152-006  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/27/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	80	70-130	06/27/07	Acceptable

MN  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060098  
Lab Code: K0705152-007  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/22/07	06/28/07	KWG0707237	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	70	70-130	06/28/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060099  
Lab Code: K0705152-008  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/26/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/26/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060100  
Lab Code: K0705152-009  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/26/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	98	70-130	06/26/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060101  
Lab Code: K0705152-010  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U <i>J</i>	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	91	70-130	06/27/07	Acceptable

*MW*  
*7-9-07*

Comments: \_\_\_\_\_



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060102  
Lab Code: K0705152-011  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/27/07	Acceptable

JMN  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060103  
Lab Code: K0705152-012  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	89	70-130	06/27/07	Acceptable

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060104  
Lab Code: K0705152-013  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	92	70-130	06/27/07	Acceptable

MW  
7/9/07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060105  
Lab Code: K0705152-014  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	2.6	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	95	70-130	06/27/07	Acceptable

MW  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060106  
Lab Code: K0705152-015  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	83	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060107  
Lab Code: K0705152-016  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060108  
Lab Code: K0705152-017  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/27/07	Acceptable

MW  
790

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060109  
Lab Code: K0705152-018  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	101	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060110  
Lab Code: K0705152-019  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/27/07	06/28/07	KWG0707222	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	81	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060111  
Lab Code: K0705152-020  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	103	70-130	06/27/07	Acceptable

MN  
7907

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060112  
Lab Code: K0705152-021  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	99	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060113  
Lab Code: K0705152-022  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	90	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060114  
Lab Code: K0705152-023  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	103	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060115  
Lab Code: K0705152-024  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	06/27/07	Acceptable

*MW*  
*7-9-07*

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060116  
Lab Code: K0705152-025  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	103	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060117  
Lab Code: K0705152-026  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	82	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:



## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060118  
Lab Code: K0705152-027  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/25/07	06/27/07	KWG0707093	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	96	70-130	06/27/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060119  
Lab Code: K0705152-028  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/27/07	06/28/07	KWG0707222	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	06/28/07	Acceptable

mw  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060120  
Lab Code: K0705152-029  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/27/07	06/28/07	KWG0707222	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	79	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060121  
Lab Code: K0705152-030  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U J	2.0	1	06/27/07	06/28/07	KWG0707222	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	06/28/07	Acceptable

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060122  
Lab Code: K0705152-031  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/27/07	06/28/07	KWG0707222	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	06/28/07	Acceptable

Comments:

## COLUMBIA ANALYTICAL SERVICES, INC.

## Analytical Results

Client: Ecology And Environment, Incorporated  
Project: NDMA  
Sample Matrix: Water

Service Request: K0705152  
Date Collected: 06/14/2007  
Date Received: 06/15/2007

## Nitrosamines by EPA 521

Sample Name: 07060123  
Lab Code: K0705152-032  
Extraction Method: METHOD  
Analysis Method: 521

Units: ng/L  
Basis: NA  
Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND U	2.0	1	06/27/07	06/28/07	KWG0707222	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	06/28/07	Acceptable

MW  
7-9-07

Comments:



# ecology and environment, inc.

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## MEMORANDUM

DATE: June 26, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009

PAN: 002233.0070.01SF

The data quality assurance review of 31 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Perchlorate (EPA SW-846 Method 6860) analysis was performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

07060001	07060002	07060003	07060004	07060005	07060006
07060007	07060008	07060009	07060010	07060011	07060012
07060013	07060014	07060015	07060016	07060017	07060018
07060019	07060020	07060021	07060022	07060023	07060024
07060025	07060026	07060027	07060028	07060029	07060030
07060031					

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on June 11, 2007, and were analyzed for perchlorate by June 20, 2007, therefore meeting QC criteria of less than 28 days between collection and analysis.

#### 2. Initial Calibration: Acceptable.

The correlation coefficient for perchlorate was greater than 0.995.

#### 3. Continuing Calibration: Acceptable.

All initial and continuing calibration verifications for perchlorate were within QC limits.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Acceptable.**

MS/MSD and BS/BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**6. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**7. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**8. Internal Recovery and Calibration Standard (IRCS): Acceptable.**

All IRCS results were within QC limits.

**9. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D7F120383  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7166447  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 07060001  
 Lab Sample ID: D7F120383-001  
 Lab WorkOrder: J0T4N1AA  
 Date/Time Collected: 06/10/07 00:00  
 Date/Time Received: 06/12/07 08:30  
 Date Leached:   
 Date/Time Extracted: 06/15/07 15:09  
 Date/Time Analyzed: 06/15/07 19:08  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.028	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
 J Estimated result. Result is less than RL.

*MW*  
*6-2607*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060002

Lab Sample ID: D7F120383-002

Lab WorkOrder: J0T4Q1AA

Date/Time Collected: 06/10/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/15/07 20:25

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*6/6/07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060003

Lab Sample ID: D7F120383-003

Lab WorkOrder: J0T4R1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/15/07 20:51

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.22	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*6/26/07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060004

Lab Sample ID: D7F120383-004

Lab WorkOrder: J0T4T1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/15/07 21:17

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.31	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* JMW  
*Handwritten date:* 6-26-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060005

Lab Sample ID: D7F120383-005

Lab WorkOrder: J0T4V1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/15/07 21:43

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.49	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* MW 6/26/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060006

Lab Sample ID: D7F120383-006

Lab WorkOrder: J0T4W1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/15/07 23:00

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.55	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
62607

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060007

Lab Sample ID: D7F120383-007

Lab WorkOrder: J0T4X1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/15/07 23:26

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.53	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
62607

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060008  
Lab Sample ID: D7F120383-008  
Lab WorkOrder: J0T401AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/15/07 23:52  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.56	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*6-26-07*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060009

Lab Sample ID: D7F120383-009

Lab WorkOrder: J0T411AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/16/07 00:17

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*5-26-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060010  
Lab Sample ID: D7F120383-010  
Lab WorkOrder: J0T431AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/16/07 00:43  
Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.066	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*mm*  
*6-26-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060011  
Lab Sample ID: D7F120383-011  
Lab WorkOrder: J0T441AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/16/07 01:09  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.097	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*JMW*  
*6-26-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060012  
Lab Sample ID: D7F120383-012  
Lab WorkOrder: J0T451AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:   
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/16/07 01:35  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.31	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten:* JMW  
6-26-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060013

Lab Sample ID: D7F120383-013

Lab WorkOrder: J0T461AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/16/07 02:00

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.31	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*6-26-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060014  
Lab Sample ID: D7F120383-014  
Lab WorkOrder: J0T471AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/16/07 02:26  
Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.28	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MMW*  
*6-26-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060015

Lab Sample ID: D7F120383-015

Lab WorkOrder: J0T481AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/16/07 02:52

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.81	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
6/26/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060016

Lab Sample ID: D7F120383-016

Lab WorkOrder: J0T491AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/16/07 04:09

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.63	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*6-26-07*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7166447

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060017

Lab Sample ID: D7F120383-017

Lab WorkOrder: J0T5A1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/15/07 15:09

Date/Time Analyzed: 06/16/07 04:35

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.69	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MAN  
6-26-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060018  
Lab Sample ID: D7F120383-018  
Lab WorkOrder: J0T5C1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/16/07 05:01  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.66	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
6-28-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060019  
Lab Sample ID: D7F120383-019  
Lab WorkOrder: J0T5D1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/16/07 05:26  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.75	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
6/26/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7166447  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060020  
Lab Sample ID: D7F120383-020  
Lab WorkOrder: J0T5E1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:   
Date/Time Extracted: 06/15/07 15:09  
Date/Time Analyzed: 06/17/07 23:23  
Instrument ID: LCMS1

CAS No.	Analyte	Cont.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
6/26/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060021  
Lab Sample ID: D7F120383-021  
Lab WorkOrder: J0T5F1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 14:20  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* MW  
6-26-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060022  
Lab Sample ID: D7F120383-022  
Lab WorkOrder: J0T5H1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:   
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 00:48  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.097	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

*MN*  
*62607*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060023  
Lab Sample ID: D7F120383-023  
Lab WorkOrder: J0T5J1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 15:37  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MN*  
*62607*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060024  
Lab Sample ID: D7F120383-024  
Lab WorkOrder: J0T5L1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 01:39  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.72	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MMW*  
*6-26-07*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060025  
Lab Sample ID: D7F120383-025  
Lab WorkOrder: J0T5M1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:   
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 02:57  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.050	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

*Handwritten signature and date:*  
JMW  
6/26/07

# STL

## Ecology and Environment, Inc. Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060026  
Lab Sample ID: D7F120383-026  
Lab WorkOrder: J0T5N1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 03:22  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.054	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*MW*  
*62607*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7170415

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060027

Lab Sample ID: D7F120383-027

Lab WorkOrder: J0T5P1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/19/07 13:59

Date/Time Analyzed: 06/20/07 03:48

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
6-26-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7170415

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060028

Lab Sample ID: D7F120383-028

Lab WorkOrder: J0T5R1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/19/07 13:59

Date/Time Analyzed: 06/20/07 04:14

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature and date:*  
6/26/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060029  
Lab Sample ID: D7F120383-029  
Lab WorkOrder: J0TST1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:   
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 04:40  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.055	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*Handwritten signature*  
62607

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F120383  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7170415  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060030  
Lab Sample ID: D7F120383-030  
Lab WorkOrder: I0T5V1AA  
Date/Time Collected: 06/11/07 00:00  
Date/Time Received: 06/12/07 08:30  
Date Leached:  
Date/Time Extracted: 06/19/07 13:59  
Date/Time Analyzed: 06/20/07 05:05  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.039	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

*Handwritten signature*  
62607

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F120383

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7170415

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060031

Lab Sample ID: D7F120383-031

Lab WorkOrder: J0T5W1AA

Date/Time Collected: 06/11/07 00:00

Date/Time Received: 06/12/07 08:30

Date Leached:

Date/Time Extracted: 06/19/07 13:59

Date/Time Analyzed: 06/20/07 05:31

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.50	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MM 62607



# ecology and environment, inc.

International Specialists in the Environment

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Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: July 3, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 28 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Perchlorate (EPA SW-846 Method 6860) analysis was performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

07060032	07060033	07060034	07060035	07060036	07060037
07060038	07060039	07060040	07060041	07060042	07060043
07060044	07060045	07060046	07060047	07060048	07060049
07060050	07060051	07060052	07060053	07060054	07060055
07060056	07060057	07060058	07060059		

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on June 12, 2007, and were analyzed for perchlorate by June 23, 2007, therefore meeting QC criteria of less than 28 days between collection and analysis.

#### 2. Initial Calibration: Acceptable.

The correlation coefficient for perchlorate was greater than 0.995.

#### 3. Continuing Calibration: Acceptable.

All initial and continuing calibration verifications for perchlorate were within QC limits.



**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable blank.

**5. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Acceptable.**

MS/MSD and BS/BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**6. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**7. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**8. Internal Recovery and Calibration Standard (IRCS): Acceptable.**

All IRCS results were within laboratory QC limits.

**9. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

**Data Qualifiers and Definitions**

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 10

Client Sample ID: 07060032

Lab Sample ID: D7F130357-001

Lab WorkOrder: J0XVV1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 14:55

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.5	0.088	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060033

Lab Sample ID: D7F130357-002

Lab WorkOrder: J0XV01AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 00:02

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.64	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature and date:*  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060034

Lab Sample ID: D7F130357-003

Lab WorkOrder: J0XV21AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 00:27

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.50	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060035

Lab Sample ID: D7F130357-004

Lab WorkOrder: J0XV31AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 00:53

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.35	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-3-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D7F130357  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7169432  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 07060036  
 Lab Sample ID: D7F130357-005  
 Lab WorkOrder: 10XV41AA  
 Date/Time Collected: 06/12/07 00:00  
 Date/Time Received: 06/13/07 09:00  
 Date Leached:  
 Date/Time Extracted: 06/18/07 15:28  
 Date/Time Analyzed: 06/19/07 01:19  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.26	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Mw*  
*7307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060037

Lab Sample ID: D7F130357-006

Lab WorkOrder: J0XV51AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 01:45

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.53	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-30T

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060038

Lab Sample ID: D7F130357-007

Lab WorkOrder: J0XV71AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 15:21

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.4	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature and date:*  
7-30-07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D7F130357  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7169432  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 07060039  
 Lab Sample ID: D7F130357-008  
 Lab WorkOrder: J0XV81AA  
 Date/Time Collected: 06/12/07 00:00  
 Date/Time Received: 06/13/07 09:00  
 Date Leached:  
 Date/Time Extracted: 06/18/07 15:28  
 Date/Time Analyzed: 06/19/07 03:28  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.31	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7307

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D7F130357  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7169432  
 Sample Aliquot: 5 mL  
 Dilution Factor: 5

Client Sample ID: 07060040  
 Lab Sample ID: D7F130357-009  
 Lab WorkOrder: I0XV91AA  
 Date/Time Collected: 06/12/07 00:00  
 Date/Time Received: 06/13/07 09:00  
 Date Leached:  
 Date/Time Extracted: 06/18/07 15:28  
 Date/Time Analyzed: 06/19/07 15:47  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.3	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F130357  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7169432  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060041  
Lab Sample ID: D7F130357-010  
Lab WorkOrder: J0XWC1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/13/07 09:00  
Date Leached:   
Date/Time Extracted: 06/18/07 15:28  
Date/Time Analyzed: 06/19/07 16:13  
Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.3	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7307

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 10

Client Sample ID: 07060042

Lab Sample ID: D7F130357-011

Lab WorkOrder: J0XWD1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 17:30

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.9	0.088	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060043

Lab Sample ID: D7F130357-012

Lab WorkOrder: J0XW11AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 17:56

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7-3-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060044

Lab Sample ID: D7F130357-013

Lab WorkOrder: 10XW21AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 18:21

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-3-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F130357  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7169432  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060045  
Lab Sample ID: D7F130357-014  
Lab WorkOrder: J0XW41AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/13/07 09:00  
Date Leached:  
Date/Time Extracted: 06/18/07 15:28  
Date/Time Analyzed: 06/19/07 06:54  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.89	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060046

Lab Sample ID: D7F130357-015

Lab WorkOrder: J0XW51AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 07:19

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.26	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7-3-07*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F130357  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7169432  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060047  
Lab Sample ID: D7F130357-016  
Lab WorkOrder: J0XW61AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/13/07 09:00  
Date Leached:  
Date/Time Extracted: 06/18/07 15:28  
Date/Time Analyzed: 06/19/07 08:37  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.27	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-3-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 10

Client Sample ID: 07060048

Lab Sample ID: D7F130357-017

Lab WorkOrder: J0XW71AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 18:47

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.4	0.088	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060049

Lab Sample ID: D7F130357-018

Lab WorkOrder: J0XW81AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 09:28

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.043	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

MN  
7307

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7169432

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060050

Lab Sample ID: D7F130357-019

Lab WorkOrder: J0XW91AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/18/07 15:28

Date/Time Analyzed: 06/19/07 20:04

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.5	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F130357  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7169432  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060051  
Lab Sample ID: D7F130357-020  
Lab WorkOrder: 10XXF1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/13/07 09:00  
Date Leached:  
Date/Time Extracted: 06/18/07 15:28  
Date/Time Analyzed: 06/19/07 10:20  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.81	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
73-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F130357  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: µg/L  
QC Batch ID: 7172388  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060052  
Lab Sample ID: D7F130357-021  
Lab WorkOrder: J0XXG1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/13/07 09:00  
Date Leached:  
Date/Time Extracted: 06/21/07 14:00  
Date/Time Analyzed: 06/23/07 20:46  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.29	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7172388

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060053

Lab Sample ID: D7F130357-022

Lab WorkOrder: J0XXH1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/21/07 14:00

Date/Time Analyzed: 06/23/07 21:12

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7-307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
Lot/SDG Number: D7F130357  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7172388  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060054  
Lab Sample ID: D7F130357-023  
Lab WorkOrder: J0XXJ1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/13/07 09:00  
Date Leached:   
Date/Time Extracted: 06/21/07 14:00  
Date/Time Analyzed: 06/23/07 21:38  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-3-07*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7172388

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060055

Lab Sample ID: D7F130357-024

Lab WorkOrder: J0XXK1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/21/07 14:00

Date/Time Analyzed: 06/23/07 22:03

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.13	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7172388

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060056

Lab Sample ID: D7F130357-025

Lab WorkOrder: 10XXL1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/21/07 14:00

Date/Time Analyzed: 06/22/07 08:29

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Percblorate	0.57	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7172388

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060057

Lab Sample ID: D7F130357-026

Lab WorkOrder: J0XXM1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/21/07 14:00

Date/Time Analyzed: 06/22/07 08:55

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.3	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-307

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER

Lot/SDG Number: D7F130357

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7172388

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060058

Lab Sample ID: D7F130357-027

Lab WorkOrder: J0XXN1AA

Date/Time Collected: 06/12/07 00:00

Date/Time Received: 06/13/07 09:00

Date Leached:

Date/Time Extracted: 06/21/07 14:00

Date/Time Analyzed: 06/22/07 09:20

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.55	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: STL DENVER  
 Lot/SDG Number: D7F130357  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7172388  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 07060059  
 Lab Sample ID: D7F130357-028  
 Lab WorkOrder: J0XXP1AA  
 Date/Time Collected: 06/12/07 00:00  
 Date/Time Received: 06/13/07 09:00  
 Date Leached:  
 Date/Time Extracted: 06/21/07 14:00  
 Date/Time Analyzed: 06/23/07 22:29  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.19	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-307*



# ecology and environment, inc.

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## MEMORANDUM

DATE: July 9, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 32 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Perchlorate (EPA SW-846 Method 6860) analysis was performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

07060060	07060061	07060062	07060063	07060064	07060065
07060066	07060067	07060068	07060069	07060070	07060071
07060072	07060073	07060074	07060075	07060076	07060077
07060078	07060079	07060080	07060081	07060082	07060083
07060084	07060085	07060086	07060087	07060088	07060089
07060090	07060091				

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on June 12 or 13, 2007, were analyzed for perchlorate by June 30, 2007, therefore meeting QC criteria of less than 28 days between collection and analysis.

#### 2. Initial Calibration: Acceptable.

The correlation coefficient for perchlorate was greater than 0.995.

#### 3. Continuing Calibration: Acceptable.

All initial and continuing calibration verifications for perchlorate were within QC limits.

**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Satisfactory.**

MS/MSD and BS/BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits except the MSD recovery for sample 07060061 and the MS and MSD recoveries for sample 07060081, all with low recoveries. Sample quantitation limits in samples 07060061 and 07060081 were qualified as estimated quantities (UJ).

**6. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**7. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**8. Internal Recovery and Calibration Standard (IRCS): Acceptable.**

All IRCS results were within QC limits.

**9. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

- J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7173302  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060060  
Lab Sample ID: D7F140412-001  
Lab WorkOrder: J024A1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/22/07 11:55  
Date/Time Analyzed: 06/24/07 07:30  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.30	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7173302  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060061  
Lab Sample ID: D7F140412-002  
Lab WorkOrder: J024G1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/22/07 11:55  
Date/Time Analyzed: 06/24/07 07:56  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.38	J 0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MN  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7173302  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060062  
Lab Sample ID: D7F140412-003  
Lab WorkOrder: J024J1AA  
Date/Time Collected: 06/12/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/22/07 11:55  
Date/Time Analyzed: 06/24/07 09:13  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.17	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MV  
F907

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060063  
Lab Sample ID: D7F140412-004  
Lab WorkOrder: J024L1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/25/07 12:26  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.14	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MM*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060064  
Lab Sample ID: D7F140412-005  
Lab WorkOrder: I024N1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/25/07 12:51  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.69	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 10

Client Sample ID: 07060065

Lab Sample ID: D7F140412-006

Lab WorkOrder: J024Q1AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/26/07 00:14

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.088	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060066  
Lab Sample ID: D7F140412-007  
Lab WorkOrder: J024R1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/25/07 13:43  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MN  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060067

Lab Sample ID: D7F140412-008

Lab WorkOrder: J024V1AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/25/07 14:09

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.59	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060068  
Lab Sample ID: D7F140412-009  
Lab WorkOrder: J024X1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/25/07 14:34  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.46	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MN*  
*F007*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 07060069  
Lab Sample ID: D7F140412-010  
Lab WorkOrder: J02401AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/26/07 00:40  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.6	0.088	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MN*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060070

Lab Sample ID: D7F140412-011

Lab WorkOrder: J02411AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/26/07 13:59

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060071  
Lab Sample ID: D7F140412-012  
Lab WorkOrder: J02421AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/26/07 14:25  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.0	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060072

Lab Sample ID: D7F140412-013

Lab WorkOrder: J02431AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/25/07 18:13

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MN*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060073

Lab Sample ID: D7F140412-014

Lab WorkOrder: I02441AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/26/07 14:51

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.96	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060074  
Lab Sample ID: D7F140412-015  
Lab WorkOrder: J02451AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/25/07 19:05  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.47	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7907*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060075

Lab Sample ID: D7F140412-016

Lab WorkOrder: J02461AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/25/07 19:30

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060076

Lab Sample ID: D7F140412-017

Lab WorkOrder: J02471AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/25/07 19:56

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.021	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

*MN*  
*7-9-07*



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 10

Client Sample ID: 07060077  
Lab Sample ID: D7F140412-018  
Lab WorkOrder: J02481AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/26/07 15:17  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	2.0	0.088	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*79-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060078

Lab Sample ID: D7F140412-019

Lab WorkOrder: I025C1AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/26/07 15:43

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.2	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mm*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7176242

Sample Aliquot: 5 mL

Dilution Factor: 5

Client Sample ID: 07060079

Lab Sample ID: D7F140412-020

Lab WorkOrder: J025D1AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/25/07 10:41

Date/Time Analyzed: 06/26/07 16:08

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	1.1	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

## Ecology and Environment, Inc. Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060080  
Lab Sample ID: D7F140412-021  
Lab WorkOrder: J025E1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/26/07 16:34  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.98	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Mn*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7176242  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060081  
Lab Sample ID: D7F140412-022  
Lab WorkOrder: J025G1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/25/07 10:41  
Date/Time Analyzed: 06/25/07 22:56  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.53	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7907*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060082  
Lab Sample ID: D7F140412-023  
Lab WorkOrder: J025J1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 06:39  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.23	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060083  
Lab Sample ID: D7F140412-024  
Lab WorkOrder: I025K1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 07:56  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.67	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060084  
Lab Sample ID: D7F140412-025  
Lab WorkOrder: J025L1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 08:24  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.61	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MV  
7-9-07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060085  
Lab Sample ID: D7F140412-026  
Lab WorkOrder: I025M1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 20:37  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.70	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 5

Client Sample ID: 07060086  
Lab Sample ID: D7F140412-027  
Lab WorkOrder: J025N1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:  
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/30/07 00:42  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.91	0.044	0.50	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060087  
Lab Sample ID: D7F140412-028  
Lab WorkOrder: J025P1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/30/07 01:08  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* MN  
7907

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F140412

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7178612

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060088

Lab Sample ID: D7F140412-029

Lab WorkOrder: J02501AA

Date/Time Collected: 06/13/07 00:00

Date/Time Received: 06/14/07 09:00

Date Leached:

Date/Time Extracted: 06/27/07 16:24

Date/Time Analyzed: 06/28/07 21:54

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060089  
Lab Sample ID: D7F140412-030  
Lab WorkOrder: I025R1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 22:20  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-9-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060090  
Lab Sample ID: D7F140412-031  
Lab WorkOrder: J025T1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 22:45  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MR*  
*7-9-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F140412  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7178612  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060091  
Lab Sample ID: D7F140412-032  
Lab WorkOrder: J025V1AA  
Date/Time Collected: 06/13/07 00:00  
Date/Time Received: 06/14/07 09:00  
Date Leached:   
Date/Time Extracted: 06/27/07 16:24  
Date/Time Analyzed: 06/28/07 23:11  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.82	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-9-07*



# ecology and environment, inc.

International Specialists in the Environment

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Tel: (206) 624-9537, Fax: (206) 621-9832

## MEMORANDUM

DATE: July 12, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *mw*

SUBJ: Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington

REF: TDD: 06-03-0009 PAN: 002233.0070.01SF

The data quality assurance review of 32 water samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Perchlorate (EPA SW-846 Method 6860) analysis was performed by STL-Denver, Arvada, Colorado.

The samples were numbered:

07060092	07060093	07060094	07060095	07060096	07060097
07060098	07060099	07060100	07060101	07060102	07060103
07060104	07060105	07060106	07060107	07060108	07060109
07060110	07060111	07060112	07060113	07060114	07060115
07060116	07060117	07060118	07060119	07060120	07060121
07060122	07060123				

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on June 14, 2007, and were analyzed for perchlorate by July 3, 2007, therefore meeting QC criteria of less than 28 days between collection and analysis.

#### 2. Initial Calibration: Acceptable.

The correlation coefficient for perchlorate was greater than 0.995.

#### 3. Continuing Calibration: Acceptable.

All initial and continuing calibration verifications for perchlorate were within QC limits.



**4. Blanks: Acceptable.**

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any applicable method blank.

**5. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Acceptable.**

MS/MSD and BS/BSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**6. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**7. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**8. Internal Recovery and Calibration Standard (IRCS): Acceptable.**

All IRCS results were within QC limits.

**9. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**10. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060092  
Lab Sample ID: D7F150444-001  
Lab WorkOrder: J06T71AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 18:42  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.014	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*MW 7/3/07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F150444

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7180407

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060093

Lab Sample ID: D7F150444-002

Lab WorkOrder: J06T81AA

Date/Time Collected: 06/14/07 00:00

Date/Time Received: 06/15/07 09:00

Date Leached:

Date/Time Extracted: 06/29/07 13:33

Date/Time Analyzed: 07/02/07 19:07

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.68	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/30/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060094  
Lab Sample ID: D7F150444-003  
Lab WorkOrder: J06T91AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 19:33  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MM*  
*FBOT*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
 Lot/SDG Number: D7F150444  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7180407  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 07060095  
 Lab Sample ID: D7F150444-004  
 Lab WorkOrder: 106VA1AA  
 Date/Time Collected: 06/14/07 00:00  
 Date/Time Received: 06/15/07 09:00  
 Date Leached:   
 Date/Time Extracted: 06/29/07 13:33  
 Date/Time Analyzed: 07/02/07 19:59  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7 BOT*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060096  
Lab Sample ID: D7F150444-005  
Lab WorkOrder: I06VC1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 20:25  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.40	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060097  
Lab Sample ID: D7F150444-006  
Lab WorkOrder: J06VD1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 20:50  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.46	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*mw*  
*7/3/07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060098  
Lab Sample ID: D7F150444-007  
Lab WorkOrder: J06VE1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 22:34  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.45	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 5860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060099  
Lab Sample ID: D7F150444-008  
Lab WorkOrder: J06VG1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 22:59  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.41	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Mh*  
*7-3-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F150444

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7180407

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060100

Lab Sample ID: D7F150444-009

Lab WorkOrder: J06VH1AA

Date/Time Collected: 06/14/07 00:00

Date/Time Received: 06/15/07 09:00

Date Leached:

Date/Time Extracted: 06/29/07 13:33

Date/Time Analyzed: 07/02/07 23:25

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.37	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature*  
7/3/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060101  
Lab Sample ID: D7F150444-010  
Lab WorkOrder: J06VJ1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/02/07 23:51  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.35	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

UW  
7/3/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060102  
Lab Sample ID: D7F150444-011  
Lab WorkOrder: J06VK1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/03/07 01:08  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.61	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/3/07*

# STL

## Ecology and Environment, Inc. Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060103  
Lab Sample ID: D7F150444-012  
Lab WorkOrder: J06VL1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/03/07 02:51  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-307*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060104  
Lab Sample ID: D7F150444-013  
Lab WorkOrder: J06VQ1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/03/07 03:17  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.42	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060105  
Lab Sample ID: D7F150444-014  
Lab WorkOrder: J06VR1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/03/07 03:43  
Instrument ID: LCMSI

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.55	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* Mr. F. Bot

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060106  
Lab Sample ID: D7F150444-015  
Lab WorkOrder: J06VT1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/03/07 04:08  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.40	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7180407  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060107  
Lab Sample ID: D7F150444-016  
Lab WorkOrder: J06VV1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 06/29/07 13:33  
Date/Time Analyzed: 07/03/07 04:34  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.42	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*Handwritten signature:* JW  
7-3-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060108  
Lab Sample ID: D7F150444-017  
Lab WorkOrder: J06VW1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 07:34  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.066	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

*MW*  
*FBOT*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060109  
Lab Sample ID: D7F150444-018  
Lab WorkOrder: 106VX1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 08:00  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.56	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-13-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060110  
Lab Sample ID: D7F150444-019  
Lab WorkOrder: J06V01AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:   
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 08:30  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.48	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/3/07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060111  
Lab Sample ID: D7F150444-020  
Lab WorkOrder: J06V21AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 08:56  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-13-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060112  
Lab Sample ID: D7F150444-021  
Lab WorkOrder: J06V31AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 14:26  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.77	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
FB-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060113  
Lab Sample ID: D7F150444-022  
Lab WorkOrder: 106V41AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 15:00  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.022	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

J Estimated result. Result is less than RL.

Mh  
7-13-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060114  
Lab Sample ID: D7F150444-023  
Lab WorkOrder: J06V51AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 15:29  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.63	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-13-07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7F150444

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 6860

Unit: ug/L

QC Batch ID: 7183465

Sample Aliquot: 5 mL

Dilution Factor: 1

Client Sample ID: 07060115

Lab Sample ID: D7F150444-024

Lab WorkOrder: J06V61AA

Date/Time Collected: 06/14/07 00:00

Date/Time Received: 06/15/07 09:00

Date Leached:

Date/Time Extracted: 07/02/07 15:30

Date/Time Analyzed: 07/03/07 15:58

Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.70	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7-13-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060116  
Lab Sample ID: D7F150444-025  
Lab WorkOrder: J06V71AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 16:26  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.016	0.0088	0.10	J

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

- U Result is less than the method detection limit (MDL).  
J Estimated result. Result is less than RL.

MW  
7/3/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060117  
Lab Sample ID: D7F150444-026  
Lab WorkOrder: J06V81AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 16:55  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060118  
Lab Sample ID: D7F150444-027  
Lab WorkOrder: J06V91AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 17:24  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.70	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/3-07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060119  
Lab Sample ID: D7F150444-028  
Lab WorkOrder: J06WA1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 18:50  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7/3/07*

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060120  
Lab Sample ID: D7F150444-029  
Lab WorkOrder: I06WC1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 19:19  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
FBOT

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060121  
Lab Sample ID: D7F150444-030  
Lab WorkOrder: J06WD1AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 19:48  
Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7B-07

# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
 Lot/SDG Number: D7F150444  
 Matrix: WATER  
 % Moisture: N/A  
 Basis: Wet  
 Analysis Method: 6860  
 Unit: ug/L  
 QC Batch ID: 7183465  
 Sample Aliquot: 5 mL  
 Dilution Factor: 1

Client Sample ID: 07060122  
 Lab Sample ID: D7F150444-031  
 Lab WorkOrder: J06WE1AA  
 Date/Time Collected: 06/14/07 00:00  
 Date/Time Received: 06/15/07 09:00  
 Date Leached:  
 Date/Time Extracted: 07/02/07 15:30  
 Date/Time Analyzed: 07/03/07 21:14  
 Instrument ID: LCMS1

CAS No.	Analyte	Conc.	MDL	RL	Q
14797-73-0	Perchlorate	0.0088	0.0088	0.10	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

MW  
7/3/07



# STL

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7F150444  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 6860  
Unit: ug/L  
QC Batch ID: 7183465  
Sample Aliquot: 5 mL  
Dilution Factor: 1

Client Sample ID: 07060123  
Lab Sample ID: D7F150444-032  
Lab WorkOrder: J06WGI AA  
Date/Time Collected: 06/14/07 00:00  
Date/Time Received: 06/15/07 09:00  
Date Leached:  
Date/Time Extracted: 07/02/07 15:30  
Date/Time Analyzed: 07/03/07 21:43  
Instrument ID: LCMS1

CAS No.	Analyte	Cont.	MDL	RL	Q
14797-73-0	Perchlorate	0.20	0.0088	0.10	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q

U Result is less than the method detection limit (MDL).

*MW*  
*7-13-07*



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## MEMORANDUM

DATE: January 21, 2008

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road Groundwater Site, Reardan, Washington**

REF: TDD: 06-09-0002 PAN: 002233.0117.01SF

The data quality assurance review of 47 soil gas module samples collected from the Euclid Road Groundwater site in Reardan, Washington, has been completed. Volatile organic compound (VOC) analysis (modified EPA SW-846 Method 8260) was performed by the Gore Screening Modules Laboratory, Elkton, Massachusetts.

The samples were numbered:

07100541	07100542	07100543	07100544	07100545
07100546	07100547	07100548	07100549	07100550
07100551	07100552	07100553	07100554	07100555
07100556	07100557	07100558	07100559	07100560
07100561	07100562	07100563	07100564	07100566
07100567	07100568	07100569	07100570	07100571
07100572	07111001	07111002	07111003	07111004
07111005	07111006	07111007	07111008	07111009
07111010	07111011	07111012	07111013	07111014
07111015	07111016			

Sample number 07100565 was not retrieved and was not submitted. Sample numbers listed above correspond with the Sample Names listed on the attached data sheets in order (i.e., 07100541 = 553891, ...).

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were installed on October 24 or November 7, 2007, were collected on November 7, 2007, and were analyzed by November 13, 2007, therefore meeting QC criteria of less than 7 days between collection and analysis for VOCs.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. Initial Calibration: Acceptable.

All Relative Standard Deviations (RSDs) were less than the QC limits of 25%.

**4. Continuing Calibration: Acceptable.**

All % differences were less than the QC limit of 25%.

**5. Blanks: Acceptable.**

Method blanks were analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Not Required.**

SMCs are not required for this method.

**7. Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Not Required.**

MS/MSD analyses are not required for this method.

**8. Duplicate Analysis: Not Required.**

Duplicates are not required for this method.

**9. Internal Standards: Not Required.**

Internal standards are not required for this method.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

GORE(TM) SURVEYS ANALYTICAL RESULTS  
 ECOLOGY AND ENVIRONMENT, INC., SEATTLE, WA  
 GORE CHLORINATED TARGET COMPOUNDS (A10+VC)  
 EUCLID ROAD GW SITE, SPOKANE, WA  
 SITE DZN - PRODUCTION ORDER #13381512

DATE ANALYZED	SAMPLE NAME	CIBENZ, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
	MDL=	0.01	0	0.02	0.02	0.05	0.02	0.01	0.01	0.02
11-13-07	553891	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553892	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553893	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553894	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553895	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553896	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553897	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553898	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553905	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553906	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553907	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553908	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553909	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553910	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553911	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553912	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553913	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553914	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553915	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553916	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553917	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553918	0.03	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553919	0.01	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553920	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553922	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553923	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553924	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553925	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553926	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553927	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553928	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

802-12-08  
 MW 12-08

GORE(TM) SURVEYS ANALYTICAL RESULTS  
 ECOLOGY AND ENVIRONMENT, INC., SEATTLE, WA  
 GORE CHLORINATED TARGET COMPOUNDS (A10+VC)  
 EUCLID ROAD GW SITE, SPOKANE, WA  
 SITE DZN - PRODUCTION ORDER #13381512

DATE ANALYZED	SAMPLE NAME	CIBENZ, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	PCE, ug
	MDL=	0.01	0.02	0.02	0.05	0.02	0.01	0.01	0.02	
11-13-07	553929	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553930	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553931	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	553932	nd	nd	nd	nd	nd	nd	nd	0.02	nd
11-12-07	553933	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553934	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553935	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553936	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553937	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553938	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553939	nd	nd	nd	nd	nd	nd	nd	0.01	nd
11-13-07	553940	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553941	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553942	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553943	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	553944	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-12-07	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
11-13-07	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	Standard Dev.	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

MW 12-08

GORE(TM) SURVEYS ANALYTICAL RESULTS  
 ECOLOGY AND ENVIRONMENT, INC., SEATTLE, WA  
 GORE CHLORINATED TARGET COMPOUNDS (A10+VC)  
 EUCLID ROAD GW SITE, SPOKANE, WA  
 SITE DZN - PRODUCTION ORDER #13381512

SAMPLE NAME	14DCB, ug	VC, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.31	0.02	0.05	0.05	0.05	0.01	0.05	0.01	0.05
553891	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553892	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553893	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553894	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553895	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553896	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553897	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553898	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553905	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553906	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553907	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553908	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553909	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553910	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553911	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553912	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553913	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553914	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553915	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553916	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553917	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553918	0.03	nd	nd	nd	nd	bdl	0.01	nd	0.02	bdl
553919	0.01	nd	nd	nd	nd	nd	0.01	nd	0.01	nd
553920	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553922	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553923	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553924	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553925	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553926	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553927	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553928	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

7/11/12-2-08

GORE(TM) SURVEYS ANALYTICAL RESULTS  
 ECOLOGY AND ENVIRONMENT, INC., SEATTLE, WA  
 GORE CHLORINATED TARGET COMPOUNDS (A10+VC)  
 EUCLID ROAD GW SITE, SPOKANE, WA  
 SITE DZN - PRODUCTION ORDER #13381512

SAMPLE NAME	14DCB, ug	VC, ug	11DCE, ug	CHCl3, ug	CCl4, ug	112TCA, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.01	0.31	0.02	0.05	0.05	0.05	0.01	0.05	0.01	0.05
553929	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553930	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553931	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553932	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553933	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553934	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553935	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553936	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553937	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553938	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553939	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553940	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553941	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553942	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553943	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
553944	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.03	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.02	0.02
Standard Dev.	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

B-887

MM 12-1-08



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## MEMORANDUM

DATE: November 28, 2007

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road TCE Monitoring Site, Reardan, Washington**

REF: TDD: 06-09-0002 PAN: 002233.0117.01SF

The data quality assurance review of 22 water samples collected from the Euclid Road TCE Monitoring site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260) was performed by TestAmerica-Denver, Inc., Arvada, Colorado.

The samples were numbered:

07100501	07100502	07100503	07100504	07100505
07100506	07100507	07100508	07100509	07100510
07100511	07100512	07100513	07100514	07100515
07100516	07100517	07100518	07100519	07100520
07100521	07100522			

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected between October 24 and 26, 2007, and were analyzed for TCE on October 31 or November 1, 2007, therefore meeting QC criteria of less than 7 days between collection and analysis for TCE in unpreserved water samples.

#### 2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. **Initial Calibration: Acceptable.**

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 4. **Continuing Calibration: Acceptable.**



All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%.

**5. Blanks: Acceptable.**

Method blanks were analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

**6. System Monitoring Compounds (SMCs): Acceptable.**

All SMC recoveries were within QC limits.

**7. Blank Spike (BS)/BS Duplicate (BSD)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

BS, BSD, MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER

Lot/SDG Number: D7J270230

Matrix: WATER

% Moisture: N/A

Basis: Wet

Analysis Method: 8260B

Unit: ug/L

QC Batch ID: 7305076

Sample Aliquot: 20 mL

Dilution Factor: 1

Client Sample ID: 07100501

Lab Sample ID: D7J270230-012

Lab WorkOrder: J92R61AA

Date/Time Collected: 10/24/07 00:00

Date/Time Received: 10/27/07 08:45

Date Leached:

Date/Time Extracted: 10/31/07 08:23

Date/Time Analyzed: 10/31/07 14:09

Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	97	65	126	
2037-26-5	Toluene-d8	104	78	118	
1868-53-7	Dibromofluoromethane	100	79	119	
460-00-4	4-Bromofluorobenzene	106	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*11/28/07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 5 mL  
Dilution Factor: 4

Client Sample ID: 07100502  
Lab Sample ID: D7J270230-001  
Lab WorkOrder: I92RR1AA  
Date/Time Collected: 10/24/07 10:20  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 10:09  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	69	0.64	4.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	107	79	119	
460-00-4	4-Bromofluorobenzene	108	75	115	

U Result is less than the method detection limit (MDL).

2/16  
11/28/07

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100503  
Lab Sample ID: D7J270230-002  
Lab WorkOrder: J92RT1AA  
Date/Time Collected: 10/24/07 10:20  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 10:27  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	1.8	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	96	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	103	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100504  
Lab Sample ID: D7J270230-003  
Lab WorkOrder: J92RV1AA  
Date/Time Collected: 10/24/07 10:20  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 10:46  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	98	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	109	79	119	
460-00-4	4-Bromofluorobenzene	108	75	115	

U Result is less than the method detection limit (MDL).

MW  
11/28/07

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100505  
Lab Sample ID: D7J270230-004  
Lab WorkOrder: J92RW1AA  
Date/Time Collected: 10/24/07 08:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 11:04  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	102	65	126	
2037-26-5	Toluene-d8	108	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	104	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D71270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100506  
Lab Sample ID: D71270230-005  
Lab WorkOrder: J92RX1AA  
Date/Time Collected: 10/24/07 08:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 11:23  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	105	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	103	75	115	

U Result is less than the method detection limit (MDL).

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*11/28/07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 5 mL  
Dilution Factor: 4

Client Sample ID: 07100507  
Lab Sample ID: D7J270230-006  
Lab WorkOrder: J92R01AA  
Date/Time Collected: 10/24/07 08:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 11:41  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	120	0.64	4.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	112	65	126	
2037-26-5	Toluene-d8	106	78	118	
1868-53-7	Dibromofluoromethane	111	79	119	
460-00-4	4-Bromofluorobenzene	108	75	115	

U Result is less than the method detection limit (MDL).

MW  
11-28-07



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100508  
Lab Sample ID: D7J270230-007  
Lab WorkOrder: J92R11AA  
Date/Time Collected: 10/24/07 11:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 12:00  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	16	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	102	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	102	75	115	

U Result is less than the method detection limit (MDL).

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*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7I270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100509  
Lab Sample ID: D7I270230-008  
Lab WorkOrder: I92R21AA  
Date/Time Collected: 10/24/07 11:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 12:18  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	117	65	126	
2037-26-5	Toluene-d8	113	78	118	
1868-53-7	Dibromofluoromethane	118	79	119	
460-00-4	4-Bromofluorobenzene	110	75	115	

U Result is less than the method detection limit (MDL).

MW  
11/28/07

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100510  
Lab Sample ID: D7J270230-009  
Lab WorkOrder: J92R31AA  
Date/Time Collected: 10/24/07 11:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 12:37  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	109	65	126	
2037-26-5	Toluene-d8	110	78	118	
1868-53-7	Dibromofluoromethane	110	79	119	
460-00-4	4-Bromofluorobenzene	112	75	115	

U Result is less than the method detection limit (MDL).

MW  
11/28/07

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100511  
Lab Sample ID: D7J270230-010  
Lab WorkOrder: J92R41AA  
Date/Time Collected: 10/24/07 10:00  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 12:55  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	106	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	95	75	115	

U Result is less than the method detection limit (MDL).

MW  
11/28/07

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100512  
Lab Sample ID: D7J270230-011  
Lab WorkOrder: J92R51AA  
Date/Time Collected: 10/24/07 11:00  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 13:50  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	103	78	118	
1868-53-7	Dibromofluoromethane	108	79	119	
460-00-4	4-Bromofluorobenzene	98	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100513  
Lab Sample ID: D7J270230-013  
Lab WorkOrder: J92R71AA  
Date/Time Collected: 10/25/07 11:00  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 15:22  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	8.7	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	104	65	126	
2037-26-5	Toluene-d8	105	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	104	75	115	

U Result is less than the method detection limit (MDL).

MW  
12/8/07

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D71270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 4 mL  
Dilution Factor: 5

Client Sample ID: 07100514  
Lab Sample ID: D71270230-014  
Lab WorkOrder: J92R81AA  
Date/Time Collected: 10/25/07 12:00  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 15:40  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	110	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	97	65	126	
2037-26-5	Toluene-d8	109	78	118	
1868-53-7	Dibromofluoromethane	104	79	119	
460-00-4	4-Bromofluorobenzene	109	75	115	

U Result is less than the method detection limit (MDL).

*Mr*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 4 mL  
Dilution Factor: 5

Client Sample ID: 07100515  
Lab Sample ID: D7J270230-015  
Lab WorkOrder: J92R91AA  
Date/Time Collected: 10/25/07 13:00  
Date/Time Received: 10/27/07 08:45  
Date Leached:   
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 15:59  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	160	0.80	5.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	96	65	126	
2037-26-5	Toluene-d8	107	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	104	75	115	

U Result is less than the method detection limit (MDL).

*Handwritten signature and date 11-28-07*



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 5 mL  
Dilution Factor: 4

Client Sample ID: 07100516  
Lab Sample ID: D7J270230-016  
Lab WorkOrder: J92TA1AA  
Date/Time Collected: 10/25/07 14:00  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 16:17  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	120	0.64	4.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	107	65	126	
2037-26-5	Toluene-d8	114	78	118	
1868-53-7	Dibromofluoromethane	106	79	119	
460-00-4	4-Bromofluorobenzene	102	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305194  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100517  
Lab Sample ID: D7J270230-017  
Lab WorkOrder: J92TCIAA  
Date/Time Collected: 10/26/07 09:45  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 06:29  
Date/Time Analyzed: 10/31/07 15:02  
Instrument ID: Z

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	92	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	101	79	119	
460-00-4	4-Bromofluorobenzene	108	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305194  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100518  
Lab Sample ID: D7J270230-018  
Lab WorkOrder: J92TD1AA  
Date/Time Collected: 10/26/07 09:05  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 06:29  
Date/Time Analyzed: 10/31/07 15:23  
Instrument ID: Z

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	1.7	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	86	65	126	
2037-26-5	Toluene-d8	95	78	118	
1868-53-7	Dibromofluoromethane	98	79	119	
460-00-4	4-Bromofluorobenzene	106	75	115	

U Result is less than the method detection limit (MDL).

*MW*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7306101  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100519  
Lab Sample ID: D7J270230-019  
Lab WorkOrder: I92TE1AA  
Date/Time Collected: 10/26/07 08:30  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 11/01/07 08:47  
Date/Time Analyzed: 11/01/07 11:27  
Instrument ID: H

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	88	78	118	
1868-53-7	Dibromofluoromethane	102	79	119	
460-00-4	4-Bromofluorobenzene	97	75	115	

U Result is less than the method detection limit (MDL).

*MW 11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7306101  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100520  
Lab Sample ID: D7J270230-020  
Lab WorkOrder: J92TF1AA  
Date/Time Collected: 10/26/07 07:45  
Date/Time Received: 10/27/07 08:45  
Date Leached:   
Date/Time Extracted: 11/01/07 08:47  
Date/Time Analyzed: 11/01/07 11:48  
Instrument ID: H

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	85	65	126	
2037-26-5	Toluene-d8	87	78	118	
1868-53-7	Dibromofluoromethane	105	79	119	
460-00-4	4-Bromofluorobenzene	94	75	115	

U Result is less than the method detection limit (MDL).

*mw*  
*11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305076  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100521  
Lab Sample ID: D7J270230-021  
Lab WorkOrder: J92TG1AA  
Date/Time Collected: 10/24/07 10:40  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 08:23  
Date/Time Analyzed: 10/31/07 16:35  
Instrument ID: R2

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	23	0.16	1.0	

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	101	65	126	
2037-26-5	Toluene-d8	107	78	118	
1868-53-7	Dibromofluoromethane	99	79	119	
460-00-4	4-Bromofluorobenzene	110	75	115	

U Result is less than the method detection limit (MDL).

*MW 11-28-07*

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Ecology and Environment, Inc.

## Analysis Data Sheet

Lab Name: TESTAMERICA DENVER  
Lot/SDG Number: D7J270230  
Matrix: WATER  
% Moisture: N/A  
Basis: Wet  
Analysis Method: 8260B  
Unit: ug/L  
QC Batch ID: 7305194  
Sample Aliquot: 20 mL  
Dilution Factor: 1

Client Sample ID: 07100522  
Lab Sample ID: D7J270230-022  
Lab WorkOrder: J92TJ1AA  
Date/Time Collected: 10/25/07 14:20  
Date/Time Received: 10/27/07 08:45  
Date Leached:  
Date/Time Extracted: 10/31/07 06:29  
Date/Time Analyzed: 10/31/07 15:43  
Instrument ID: Z

CAS No.	Analyte	Conc.	MDL	RL	Q
79-01-6	Trichloroethene	0.16	0.16	1.0	U

CAS No.	Surrogate	% Rec	Lower Limit	Upper Limit	Q
17060-07-0	1,2-Dichloroethane-d4	82	65	126	
2037-26-5	Toluene-d8	94	78	118	
1868-53-7	Dibromofluoromethane	96	79	119	
460-00-4	4-Bromofluorobenzene	105	75	115	

U Result is less than the method detection limit (MDL).

MW 11-28-07



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## MEMORANDUM

DATE: August 16, 2009

TO: Mark Woodke, START-3 Project Manager, E & E, Seattle, Washington

FROM: ~~M~~David Ikeda Chemist, E & E, Seattle, Washington *DI*

SUBJ: **Organic Data Quality Assurance Review,  
Euclid Road Site, Spokane, Washington**

REF: TDD: 06-09-0002 PAN: 002233.0117.01SF

The data quality assurance review of 6 SUMMA samples collected from the Euclid Road site located in Spokane, Washington, has been completed. Trichloroethylene (TCE) analysis (modified EPA TO-15 simultaneous ion monitoring mode [SIM]) was performed by Air Toxics, Ltd., Folsom, California.

~~The samples were numbered:~~

09060019	09060024
09060022	09060025
09060023	09060026

### Data Qualifications:

#### 1. **Sample Holding Times: Acceptable.**

The samples were collected on June 30, 2009, and were analyzed by July 13, 2009, therefore meeting QC criteria of less than 28 days between collection and analysis for SUMMA samples.

#### 2. **Tuning: Acceptable.**

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. **Initial Calibration: Acceptable.**

The TCE average Relative Response Factor (RRF) was greater than the QC limit of 0.050. All TCE Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 4. **Continuing Calibration: Satisfactory.**

All TCE RRF were greater than the QC limit of 0.050. All TCE % differences were less than the QC limits of 25%.

#### 5. **Blanks: Satisfactory.**



A method blank was analyzed for each 20 samples. There were no detections of TCE in any method blank.

**6. System Monitoring Compounds (SMCs): Satisfactory.**

All SMC percent recovery values were within QC limits.

**7. Matrix Spike (MS)/MS Duplicate (MSD)/Laboratory Control Sample (LCS) Analysis: Satisfactory.**

The LCS, analysis was performed per matrix. No matrix spike or matrix spike duplicate sample was performed by the laboratory. All percent recovery values were within QC limits.

**8. Duplicate Analysis: Satisfactory.**

Laboratory duplicate analysis was performed. All TCE duplicate results were within QC limits except.

**9. Internal Standards: Satisfactory.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the site-specific sampling plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.



Client Sample ID: 09060019

Lab ID#: 0907064-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a071310	Date of Collection:	6/30/09 9:00:00 AM
Dil. Factor:	2.12	Date of Analysis:	7/13/09 01:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0064	0.0097	0.034	0.052

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130

MW  
for DI  
8/6/09



Client Sample ID: 09060022

Lab ID#: 0907064-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	a071311	Date of Collection:	6/30/09 9:05:00 AM
Dil. Factor:	2.36	Date of Analysis:	7/13/09 02:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0071	0.030	0.038	0.16

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130

MW for DI  
8/6/09



Client Sample ID: 09060023

Lab ID#: 0907064-03A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	a071312	Date of Collection:	6/30/09 9:05:00 AM
Dil. Factor:	2.06	Date of Analysis:	7/13/09 02:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0062	0.012	0.033	0.065

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130

MW for DT  
8-16-09

Client Sample ID: 09060024

Lab ID#: 0907064-04A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	a071313	Date of Collection:	6/30/09 9:55:00 AM
Dil. Factor:	2.30	Date of Analysis:	7/13/09 03:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0069	0.097	0.037	0.52

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130

MW for DI  
8/16/09

Client Sample ID: 09060025

Lab ID#: 0907064-05A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	a071314	Date of Collection:	6/30/09 10:00:00 AM
Dil. Factor:	2.01	Date of Analysis:	7/13/09 04:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0060	0.098	0.032	0.52

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130

*MM for DI*  
*8/16/09*

Client Sample ID: 09060026

Lab ID#: 0907064-06A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

File Name:	a071315	Date of Collection:	6/30/09 10:00:00 AM
Dil. Factor:	2.12	Date of Analysis:	7/13/09 04:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.0064	0.012	0.034	0.063

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130

*mw for DF  
8/1/09*



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## MEMORANDUM

DATE: August 31, 2009

FROM: Mark Woodke, START-3 Chemist/Project Manager, E & E, Seattle, Washington *MW*

SUBJ: **Organic Data Quality Assurance Review, Euclid Road TCE Monitoring Site, Reardan, Washington**

REF: TDD: 06-09-0002 PAN: 002233.0117.01SF

The data quality assurance review of 21 water samples collected from the Euclid Road TCE Monitoring site in Reardan, Washington, has been completed. Trichloroethene (TCE) analysis (EPA SW-846 Method 8260) was performed by OnSite Environmental, Inc., Redmond, Washington.

The samples were numbered:

09060001	09060002	09060003	09060004	09060005	09060006
09060007	09060008	09060009	09060010	09060011	09060012
09060013	09060014	09060015	09060016	09060017	09060018
09060027	09060028	09060029			

### Data Qualifications:

#### 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected between June 29 and 30, 2009, and were analyzed for TCE by July 8, 2009, therefore meeting QC criteria of less than 14 days between collection and analysis for TCE in preserved water samples.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. Initial Calibration: Acceptable.

All TCE average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All TCE water Relative Standard Deviations (RSDs) were less than the QC limits of 30%.

#### 4. Continuing Calibration: Acceptable.

All TCE RRFs were greater than the QC limit of 0.050. All TCE % differences were less than the QC limit of 25%.

#### 5. Blanks: Acceptable.

Method blanks were analyzed for each 20 sample batch per matrix. There were no detections in any method blank.



**6. System Monitoring Compounds (SMCs): Acceptable.**

All SMC recoveries were within QC limits.

**7. Blank Spike (BS)/BS Duplicate (BSD)/Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Analysis: Acceptable.**

BS, BSD, MS and MSD analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

**8. Duplicate Analysis: Acceptable.**

Laboratory spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits.

**9. Internal Standards: Acceptable.**

All internal standards were within  $\pm 30$  seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

**10. Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

**11. Performance Evaluation Sample Analysis: Not Provided.**

Performance evaluation samples were not provided to the laboratory.

**12. Overall Assessment of Data for Use**

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-01  
Client ID: 09060001

Compound	Results	Flags	PQL
Trichloroethene	1.3		0.40

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene-d8	95	76-116
4-Bromofluorobenzene	90	70-123

*mu 8-31-09*

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-02  
Client ID: 09060002

Compound	Results	Flags	PQL
Trichloroethene	130		1.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	82	71-126
Toluene-d8	89	76-116
4-Bromofluorobenzene	87	70-123

*mn*  
*8-31-09*

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-03  
Client ID: 09060003

Compound	Results	Flags	PQL
Trichloroethene	240		1.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	85	71-126
Toluene-d8	91	76-116
4-Bromofluorobenzene	95	70-123

MW 831-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-04  
Client ID: 09060004

Compound	Results	Flags	PQL
Trichloroethene	150		1.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	84	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	88	70-123

MW  
8-3-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-05  
Client ID: 09060005

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20 U

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	82	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	91	70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-06  
Client ID: 09060006

Compound	Results	Flags	PQL
Trichloroethene	1.2		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-126
Toluene-d8	93	76-116
4-Bromofluorobenzene	95	70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-07  
Client ID: 09060007

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20 U

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	87	71-126
Toluene-d8	86	76-116
4-Bromofluorobenzene	87	70-123

MW  
8-3-09



Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-08  
Client ID: 09060008

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20 U

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	88	71-126
Toluene-d8	84	76-116
4-Bromofluorobenzene	90	70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09  
Matrix: Water  
Units: ug/L (ppb)  
Lab ID: 07-011-09  
Client ID: 09060009

Compound	Results	Flags	PQL
Trichloroethene	69		0.40

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	71-126
Toluene-d8	87	76-116
4-Bromofluorobenzene	94	70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-10  
Client ID: 09060010

**Compound**  
Trichloroethene

**Results**  
ND

**Flags**

**PQL**  
0.20 U

**Surrogate**

**Percent  
Recovery**

**Control  
Limits**

Dibromofluoromethane

93

71-126

Toluene-d8

88

76-116

4-Bromofluorobenzene

93

70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09

Date Analyzed: 7-4-09

Matrix: Water

Units: ug/L (ppb)

Lab ID: 07-011-11

Client ID: 09060011

**Compound**  
Trichloroethene

**Results**  
ND

**Flags**

**PQL**  
0.20 U

**Surrogate****Percent  
Recovery****Control  
Limits**

Dibromofluoromethane

82

71-126

Toluene-d8

89

76-116

4-Bromofluorobenzene

90

70-123

MW  
831-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-8-09  
Date Analyzed: 7-8-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-12  
Client ID: 09060012

Compound	Results	Flags	PQL
Trichloroethene	60		1.0

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	90	71-126
Toluene-d8	92	76-116
4-Bromofluorobenzene	84	70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09

Date Analyzed: 7-4-09

Matrix: Water

Units: ug/L (ppb)

Lab ID: 07-011-13

Client ID: 09060013

**Compound**  
Trichloroethene

**Results**  
ND

**Flags**

**PQL**  
0.20 U

**Surrogate****Percent  
Recovery****Control  
Limits**

Dibromofluoromethane

89

71-126

Toluene-d8

87

76-116

4-Bromofluorobenzene

87

70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-14  
Client ID: 09060014

**Compound**  
Trichloroethene

**Results**  
ND

**Flags**

**PQL**  
0.20 U

**Surrogate**

Dibromofluoromethane  
Toluene-d8  
4-Bromofluorobenzene

**Percent  
Recovery**

90  
88  
99

**Control  
Limits**

71-126  
76-116  
70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-15  
Client ID: 09060015

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20 U

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	81	71-126
Toluene-d8	88	76-116
4-Bromofluorobenzene	95	70-123

MW  
8-31-09



Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-16  
Client ID: 09060016

**Compound**  
Trichloroethene

**Results**  
ND

**Flags**

**PQL**  
0.20 U

**Surrogate**

Dibromofluoromethane  
Toluene-d8  
4-Bromofluorobenzene

**Percent  
Recovery**

85  
89  
95

**Control  
Limits**

71-126  
76-116  
70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-17  
Client ID: 09060017

Compound	Results	Flags	PQL
Trichloroethene	22		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	86	71-126
Toluene-d8	90	76-116
4-Bromofluorobenzene	98	70-123

MW

6-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-18  
Client ID: 09060018

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20 U

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	83	71-126
Toluene-d8	83	76-116
4-Bromofluorobenzene	82	70-123

MW  
8309

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-19  
Client ID: 09060027

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	81	71-126
Toluene-d8	86	76-116
4-Bromofluorobenzene	89	70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-4-09  
Date Analyzed: 7-4-09

Matrix: Water  
Units: ug/L (ppb)

Lab ID: 07-011-20  
Client ID: 09060028

**Compound**  
Trichloroethene

**Results**  
ND

**Flags**

**PQL**  
0.20 U

**Surrogate****Percent  
Recovery****Control  
Limits**

Dibromofluoromethane  
Toluene-d8  
4-Bromofluorobenzene

87  
85  
92

71-126  
76-116  
70-123

MW  
8-31-09

Date of Report: July 13, 2009  
Samples Submitted: July 1, 2009  
Laboratory Reference: 0907-011  
Project: 06090002

**VOLATILES by EPA 8260B**

Date Extracted: 7-8-09  
Date Analyzed: 7-8-09  
Matrix: Water  
Units: ug/L (ppb)  
Lab ID: 07-011-21  
Client ID: 09060029

Compound	Results	Flags	PQL
Trichloroethene	ND		0.20 U

Surrogate	Percent Recovery	Control Limits
Dibromofluoromethane	93	71-126
Toluene-d8	92	76-116
4-Bromofluorobenzene	84	70-123

MW  
8-31-09

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**C**

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**Quality Assurance/Quality Control**

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QA/quality control (QC) data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware and reagents. Specific QC requirements for laboratory analyses are incorporated in the *Contract Laboratory Program Statement of Work for Organic Analyses* (EPA 2003). These QC requirements or equivalent requirements found in the analytical methods were followed for analytical work on the RE. This section describes the QA/QC measures taken for the RE and provides an evaluation of the usability of data presented in this report.

All samples were collected following the guidance of the SSSPs (E & E 2006a and 2007) and the Sample Plan Alteration Forms for the field activities. Groundwater NDMA, perchlorate, and TCE analyses were performed at STL-Denver, Inc., Arvada, Colorado, a commercial laboratory, following an STL-Denver Standard Operating Procedure (SOP), an STL-Denver SOP/EPA SW-846 method 6860, and EPA SW-846 method 8260, respectively. STL-Denver changed ownership during the project and later became known as TestAmerica Denver. Beginning with the August 2006 sampling event, groundwater NDMA analyses also were performed at Columbia Analytical Services, Inc., Kelso, Washington, a commercial laboratory, following EPA method 521. Soil gas samples were analyzed at the Gore Module Laboratory in Elkton, Maryland following EPA SW-846 method 8260. Groundwater TCE analyses were performed at OnSite Environmental, Inc., Redmond, Washington, a commercial laboratory, following EPA SW-846 method 8260 for the June 2009 samples.

Data from the START-subcontracted commercial laboratories were reviewed and validated by a START chemist. Data qualifiers were applied as necessary according to the following guidance:

- *EPA (1990) Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures; and*
- *EPA (1999) Contract Laboratory Program National Functional Guidelines for Organic Data Review.*

In the absence of other QC guidance, method- and/or SOP-specific QC limits were also utilized to apply qualifiers to the data.

## **Satisfaction Of Data Quality Objectives**

The following EPA (EPA 2000a) guidance document was used to establish data quality objectives (DQOs) for this RE:

- *Guidance for the Data Quality Objectives Process* (EPA QA/G-4), EPA/600/R-96/055.

The EPA Task Monitor determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the field work produced sufficient data that met the DQOs stated in the SSSPs (E & E 2006a and 2007). A detailed discussion of accomplished RE objectives is presented in the following sections.

## **Quality Assurance/Quality Control Samples**

QA samples included one rinsate blank sample, one field blank sample, and sixteen trip blank samples. One rinsate blank sample was collected in October 2007 but in general rinsate blank samples were not collected as the pumps used for collecting the monitoring well samples were rinsed with well water for 10 to 15 minutes prior to sample collection. One field blank sample was collected in December 2006 to determine if outside contamination was potentially affecting field sample results. Water trip blank samples were collected from a deionized water source for the project. Soil gas trip blank samples were blank modules supplied by the manufacturer. QC samples included matrix spike/matrix spike duplicate (MS/MSD) samples for organic analyses at a rate of one MS/MSD per 20 samples per matrix.

## **Project-Specific Data Quality Objectives**

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' abilities to meet project DQOs for precision, accuracy and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratories and the field team were able to meet DQOs for the project.

**Precision.** Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/MSD samples measure the precision of the analytical method. The RPD values were reviewed for all commercial laboratory

samples. No sample results were qualified based on laboratory duplicate QC outliers; therefore the project DQO for precision of 90 % was met.

**Accuracy.** Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the surrogate spike percent recovery (% R) or the MS % Rs for all laboratory analyses. The surrogate % R values were reviewed for all appropriate sample analyses. One NDMA sample result (approximately 0.1 % of the data) was qualified as an estimated quantity based on surrogate QC outliers.

The MS % R values were reviewed for all MS/MSD analyses. Seven sample results (approximately 1 % of the data) were qualified as estimated quantities based on spike QC outliers. The project DQO for accuracy of 90 % was met.

**Completeness.** Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All laboratory data were reviewed for data validation and usability. No target analytes were rejected; therefore the project DQO for completeness of 90 % was met.

**Representativeness.** Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point or environmental condition. The number and selection of samples were determined in the field to account accurately for site variations and sample matrices. The project DQO for representativeness of 90 % was met.

**Comparability.** Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The project DQO for comparability of 90 % was met.

### **Laboratory Quality Assurance/Quality Control Parameters**

The laboratory data also were reviewed for holding times/temperatures, laboratory blank samples, the rinsate blank and field blank samples, and trip blank samples. These QA/QC param-

ters are summarized below. In general, the laboratory and field QA/QC parameters were considered acceptable.

### **Holding Times/Temperatures**

All holding times were met. All samples were maintained within QC temperature limits except a few outliers that were less than two degrees Celsius above or below QC limits. No action was taken based on these slight outliers.

### **Laboratory Blanks**

All laboratory blanks met the frequency criteria. No potential contaminants of concern were detected in the laboratory blanks.

### **Rinsate and Field Blanks**

The water rinsate and field blanks were collected from a deionized water source. Rinsate blank samples were collected in October 2007 and June 2009 but in general rinsate blank samples were not collected as the pumps used for collecting the monitoring well samples were rinsed with well water for 10 to 15 minutes prior to sample collection. One field blank sample was collected from a deionized water source in December 2006 to determine if outside sources were influencing field sample results. No contaminants were detected in the rinsate or field blank samples.

### **Trip Blanks**

The water trip blanks were collected from a deionized water source. Twelve water and four soil gas trip blank samples were collected during the field event, therefore meeting the frequency criteria of one per cooler per 20 VOC samples. TCE was not detected in any trip blank samples

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**D**

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## **Monitoring Well Survey Data**

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## ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104

Tel: (206) 624-9537, Fax: (206) 621-9832

March 10, 2008

Mr. Calvin Terada, On-Scene Coordinator  
United States Environmental Protection Agency  
1200 Sixth Avenue, Mail Stop ECL-116  
Seattle, Washington 98101

**Re: Euclid Road TCE Monitoring Site Ground Water Flow Direction Memorandum**

Dear Mr. Terada:

Ecology and Environment, Inc. (E & E) is submitting to the United States Environmental Protection Agency this memorandum of ground water flow direction for the Euclid Road TCE Monitoring Site. The evaluation included a review of available driller's logs for the eight monitoring wells at the site and evaluation of the elevations of water levels in these monitoring wells.

Well logs were obtained for monitoring wells (MWs) MW-01 through MW-04 from the Herrera Environmental Consultants, Inc. (Herrera) Emergency Sampling Report (February 2006). Copies of well logs for monitoring wells MW-01 through MW-08 are included in Appendix A.

A survey of all eight MWs was conducted in December 2007; well survey information is included in Appendix B. The wells were screened in the uppermost water-bearing zone encountered at the well location based on well logs.

Total well depths, well elevations, water level elevations, and ground water depths were obtained from the well logs and the E & E Euclid Road TCE Monitoring Report (in progress) and are included in Appendix C. Total depths of the wells used in the evaluation vary between 53.5 feet to 113.5 feet. Elevations of water levels reported on the driller's logs for the reviewed wells vary from 2,330.64 to 2,460.89 feet relative to mean sea level (see Table 1).

Monitoring well locations and ground water flow diagrams are included for the months of November 2005 (as interpreted on Figure 4-2 by Herrera Environmental Consultants, Inc. in the Emergency Response Sampling Report, Euclid Road Ground Water Site, February 15, 2006), March, September, and December 2006, and April and October 2007 in Appendix D. All ground water measurements were performed at least one day following well development and before ground water samples were collected so that static ground water levels were allowed to equilibrate. Ground water elevations were recorded with a water level indicator. The groundwater elevation changes are consistent with seasonal changes in precipitation and elevations recorded during past monitoring events. In general, the ground water flow directions were to the east/southeast for all six monitoring periods, generally following the surface topography.

If you have any questions or comments regarding this ground water elevation memorandum evaluation, please contact me at (206) 624-9537.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.



for Jeffrey Fowlow, R.G.  
START Geologist



**APPENDIX A**  
**MONITORING WELL LOGS**



# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD

Boring # ERMW-1  
Total depth: 66 ft.  
Sheet 1 of 2

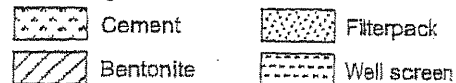
Project name: Euclid Rd. ER  
Project number: 00-01732-069  
Client: EPA  
Location: 900 ft. north of Euclid well  
HEC rep.: B. Carpenter  
Start Date: 11/07/05  
Compl. Date: 11/07/05

Drilling Contractor: Environmental W  
Drilling method: Air Rotary  
Sampling method: Cuttings w/strainer  
Measuring point elev.: -  
Ground elevation: -  
Air monitoring (y/n): Y  
Instrument(s): Mini RAE

Casing material: Sch 40 PVC  
Casing diameter: 2 inches  
Screen slot width: 10 slot  
Casing joint type: Threaded  
Filter pack: 10/20  
Annular seal: Bentonite chips  
Monument type: Flush mount

Depth to water	39.5'	38.04'	38.5'
Reference point	open hole	top of 2" PVC	top of 2" PVC
Time	14:05	14:12	17:20
Date	11/07/05	11/10/05	11/22/05

## Monitoring well details

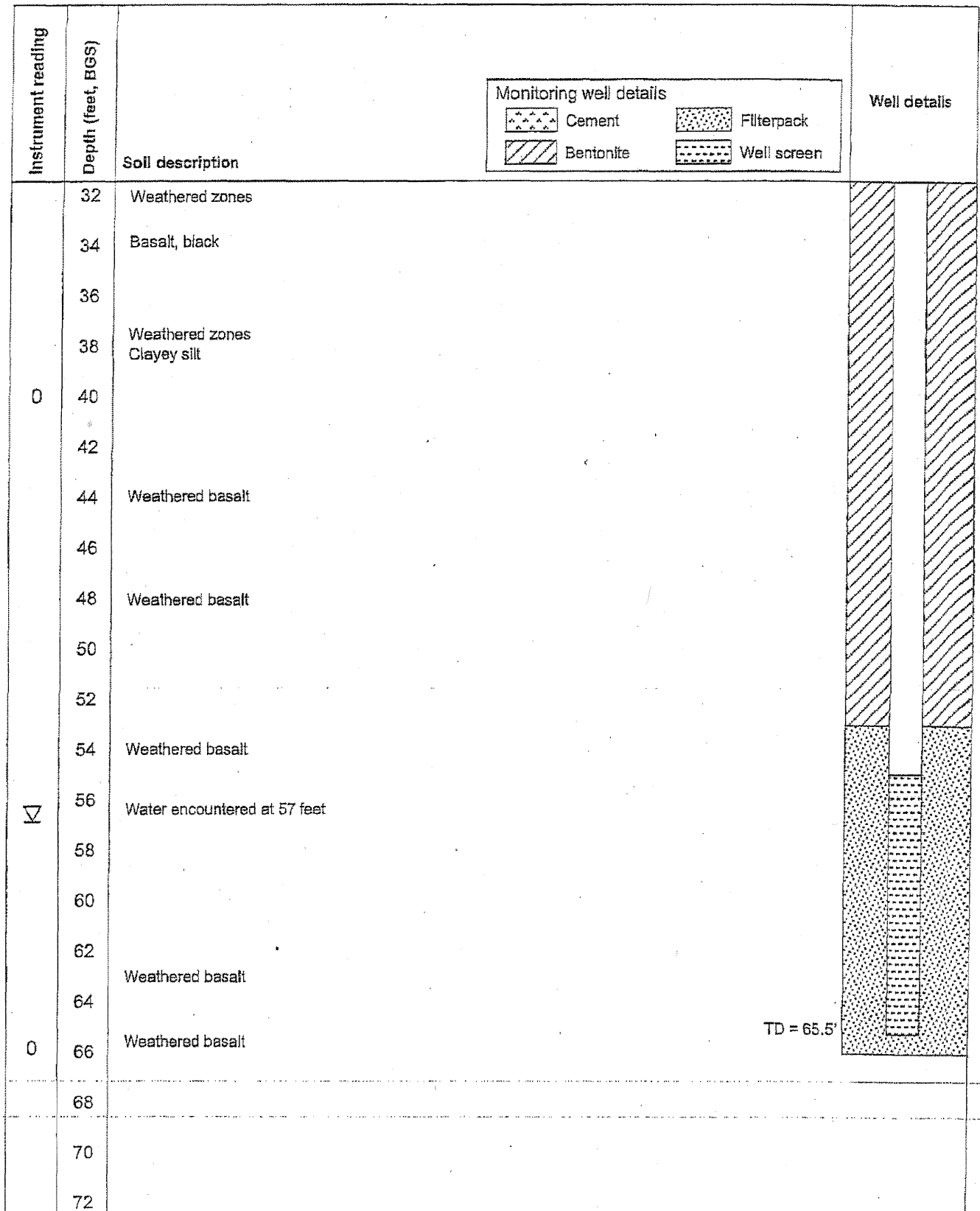


Instrument reading	Depth (feet, BGS)	Soil description	Well details
	2	Topsail Brown clayey silt	
	4	Light brown clayey silt (loess)	
	6		
0	8	Gray basalt Weathered	
	10		
	12		
	14	Brown silty SAND (interbed) Basalt	
	16	Weathered zones	
	18		
	20		
	22	Weathered zones	
	24	Brown clay silt zone	
	26		
	28	Basalt, hard	
	30		



# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD

Boring # ERMW-1  
Total depth: 66 ft.  
Sheet 2 of 2





# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD

Boring # ERMW-2  
Total depth: 96 ft.  
Sheet 1 of 3

Project name: Euclid Rd. ER  
Project number: 00-01732-069  
Client: EPA  
Location: E. of Euclid well on  
Donald Harris property  
HEC rep.: B. Carpenter  
Start Date: 11/07/05  
Compl. Date: 11/08/05

Drilling Contractor: Environmental W  
Drilling method: Air Rotary  
Sampling method: Cuttings w/strainer  
Measuring point elev.: -  
Ground elevation: -  
Air monitoring (y/n): Y  
Instrument(s): Mini RAE

Casing material: Sch 40 PVC  
Casing diameter: 2 inches  
Screen slot width: 10 slot  
Casing joint type: Threaded  
Filter pack: 10/20  
Annular seal: Bentonite chips  
Monument type: Flush mount

Depth to water	70.6'	69.87'	70.15'
Reference point	open hole	top of 2" PVC	top of 2" PVC
Time	10:55	11:25	16:00
Date	11/08/05	11/10/05	11/22/05

## Monitoring well details



Cement



Filterpack



Bentonite







Well screen

Instrument reading	Depth (feet BGS)	Soil description	Well details	
0	2	Topsoil Light brown loess		
	4			
	6	Brown clayey SILT with trace gravel		
	8	Weathered basalt		
	10			
	12			
	14			
	16			
	18			
	20	Basalt, hard		
	22			
	24			
		Clayey SILT zone		
	26			
	28			
0	30			



**GEOLOGIC LOG AND MONITORING  
WELL CONSTRUCTION RECORD**

Boring # ERMW-2  
Total depth: 96 ft.  
Sheet 2 of 3

Instrument reading	Depth (feet, BGS)	Soil description	Monitoring well details		Well details
			 Cement  Bentonite	 Filterpack  Well screen	
0	32	Weathered basalt			
	34				
	36				
	38				
	40				
	42	Black weathered basalt			
	44	Brown clayey SILT			
	46				
	48	Black weathered basalt			
	50				
0	52				
	54				
	56	As above			
	58				
	60				
	62				
	64	Basalt, hard			
	66				
	68				
	70	Weathered basalt Clayey SILT			
	72				





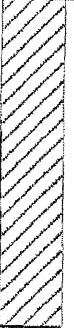
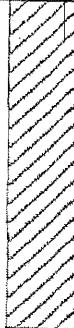
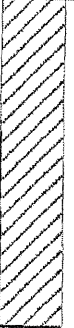
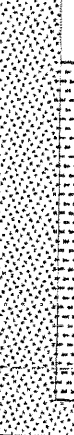
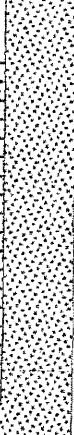
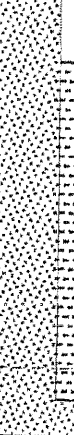








GEOLOGIC LOG AND MONITORING  
WELL CONSTRUCTION RECORD

Boring # ERMW-2

Total depth: 96 ft.

Sheet 3 of 3

Instrument reading	Depth (feet, BGS)	Soil description	Monitoring well details		Well details
			 Cement	 Filterpack	
			 Bentonite	 Well screen	
0 ▽	74	Weathered basalt			
	76				
	78				
	80				
	82				
	84				
	86	Water encountered at 88 feet			
	88				
0	90	Weathered basalt			
	92				
	94				
	96				
	98				
	100				
	102				
	104				
	106				
	108				
	110				
	112				
	114				

TD = 95.5'



# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD

Boring # ERMW-3  
Total depth: 113.5 ft.  
Sheet 1 of 3

Project name: Euclid Rd. ER  
Project number: 00-01732-069  
Client: EPA  
Location: Adjacent to Hutterite  
livestock well  
HEC rep.: B. Carpenter  
Start Date: 11/08/05  
Compl. Date: 11/09/05

Drilling Contractor: Environmental W  
Drilling method: Air Rotary  
Sampling method: Cuttings w/strainer  
Measuring point elev.: -  
Ground elevation: -  
Air monitoring (y/n): Y  
Instrument(s): Mini RAE

Casing material: Sch 40 PVC  
Casing diameter: 2 inches  
Screen slot width: 10 slot  
Casing joint type: Threaded  
Filter pack: 10/20  
Annular seal: Bentonite chips  
Monument type: Flush mount

Depth to water	87.25'	86.64'	86.88'
Reference point	open hole	top of 2" PVC	top of 2" PVC
Time	9:25	8:45	13:00
Date	11/09/05	11/10/05	11/22/05

## Monitoring well details







Instrument reading	Depth (feet, BGS)	Soil description	Well details
	2	Topsoil Dark brown clayey SILT	
	4	Light reddish-brown SILT, loess, dry	
	6		
	8		
	10		
	12	As above	
	14		
	16		
	18		
	20		
	22	Dark gray SILT with rock fragments (basalt)	
0	24	Dark gray weathered basalt	
	26		
	28		
	30		



# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD

Boring # ERMW-3  
Total depth: 113.5 ft.  
Sheet 2 of 3

Instrument reading	Depth (feet, BGS)	Soil description	Monitoring well details		Well details
			 Cement  Bentonite	 Filterpack  Well screen	
0	32	Weathered basalt			
	34	Gray weathered basalt			
	36				
	38				
0	40				
	42	Gray weathered basalt			
	44				
	46				
	48				
0	50	Gray weathered basalt			
	52				
	54				
	56	Brown clayey SILT			
	58	Gray brown weathered basalt			
0	60				
	62	Weathered basalt			
	64				
	66				
	68				
0	70				
	72				





GEOLOGIC LOG AND MONITORING  
WELL CONSTRUCTION RECORD

Boring # ERMW-3  
Total depth: 113.5 ft  
Sheet 3 of 3

Instrument reading	Depth (feet, BGS)	Soil description	Monitoring well details		Well details
			Cement	Filterpack	
	74				
	76	Weathered basalt			
	78				
0	80				
	82				
	84				
	86				
	88				
0	90				
	92				
	94				
▽	96	Water bearing fracture			
	98				
	100				
0	102	Weathered basalt			
	104				
	106				
	108	Weathered basalt			
	110				
	112				
0	114				

TD = 113.5'



# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD

Boring # ERMW-4  
Total depth: 103 ft.  
Sheet 1 of 3

Project name: Euclid Rd. ER  
Project number: 00-01732-069  
Client: EPA  
Location: Euclid Rd. S. of Euclid well  
(Hall driveway)  
HEC rep.: B. Carpenter  
Start Date: 11/09/05  
Compl. Date: 11/09/05

Drilling Contractor: Environmental W  
Drilling method: Air Rotary  
Sampling method: Cuttings w/strainer  
Measuring point elev.: -  
Ground elevation: -  
Air monitoring (y/n): Y  
Instrument(s): Mini RAE

Casing material: Sch 40 PVC  
Casing diameter: 2 inches  
Screen slot width: 10 slot  
Casing joint type: Threaded  
Filter pack: 10/20  
Annular seal: Bentonite chips  
Monument type: Flush mount

Depth to water	67.50'	66.52'	66.80'
Reference point	open hole	top of 2" PVC	top of 2" PVC
Time	14:15	12:43	14:30
Date	11/09/05	11/10/05	11/22/05

## Monitoring well details





	Cement		Filterpack
	Bentonite		Well screen

Instrument reading	Depth (feet, BGS)	Soil description	Well details
	2	Topsoil Brown silt, loess	
	4		
	6	Basalt, black, gray	
	8		
	10	Brown-gray weathered basalt Black-gray hard basalt	
0	12		
	14		
	16		
	18		
0	20	Black-gray basalt, hard	
	22		
	24		
	26		
	28		
0	30	As above	



# GEOLOGIC LOG AND MONITORING WELL CONSTRUCTION RECORD





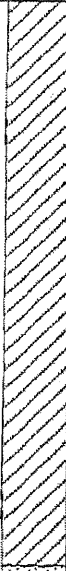
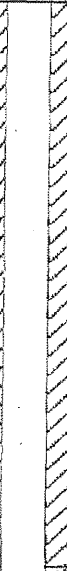
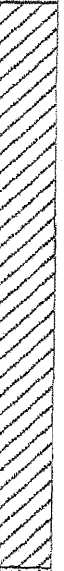
Boring # ERMW-4  
Total depth: 103 ft.  
Sheet 2 of 3

Instrument reading	Depth (feet, BGS)	Soil description	Monitoring well details		Well details
			 Cement  Bentonite	 Filterpack  Well screen	
0	32	Gray-black basalt, hard			
	34				
	36				
	38				
	40	Gray-brown basalt, weathered			
	42	Black basalt, weathered, vesicular (possibly some water)			
	44				
	46				
	48	Brown weathered basalt, sandy GRAVEL			
	50	Light brown, gravelly SAND (interbed) Weathered BASALT			
0	52				
	54				
	56				
	58	Dark brown weathered BASALT, with sand			
	60	Dark brown weathered BASALT, with sand			
	62				
	64				
	66				
	68	As above			
1	70	Dark brown weathered BASALT, gravel is sub-rounded, hole collapses, creates void and drill loses circulation			
	72				



**GEOLOGIC LOG AND MONITORING  
WELL CONSTRUCTION RECORD**

Boring # ERMW-4  
Total depth: 103 ft.  
Sheet 3 of 3

Instrument reading	Depth (feet, BGS)	Soil description	Monitoring well details		Well details			
			 Cement	 Filterpack		 Bentonite	 Well screen	
0	74	Weathered basalt						
	76							
	78							
	80							
	82	Weathered basalt, dark brown sand and gravel						
	84							
	86							
	88							
	90	Note: *Water added to hole to help circulation. Mini RAE malfunctioned because of moisture exiting borehole.						
	92							
9.1	94	Weathered basalt, sand and gravel, seemed moist						
	96							
	98	Basalt, weathered, but more competent than above						
	100							
	102							
	104							
	106							
	108							
0	110							
	112							
	114							

TD = 101.5'

# WELL CONSTRUCTION LOG MW-05

Site Name: Euclid Road TCE Monitoring

Well ID: MW-05

Drilling Company: Environmental West, Inc.

Geologist/Engineer: Eileen Kollins

Date: October 22, 2007

Drilling Method: Air Rotary

## Well Construction:

Material: Schedule 40 PVC

Casing Diameter: 2"

Slot Size: 10

Type/Length: \_\_\_\_\_

Filter Pack: 10/20

Type/Brand: Sand

Amount: \_\_\_\_\_

## Seal:

Type/Brand: Bentonite Chips

Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Cement Seal:

Type/Brand: \_\_\_\_\_

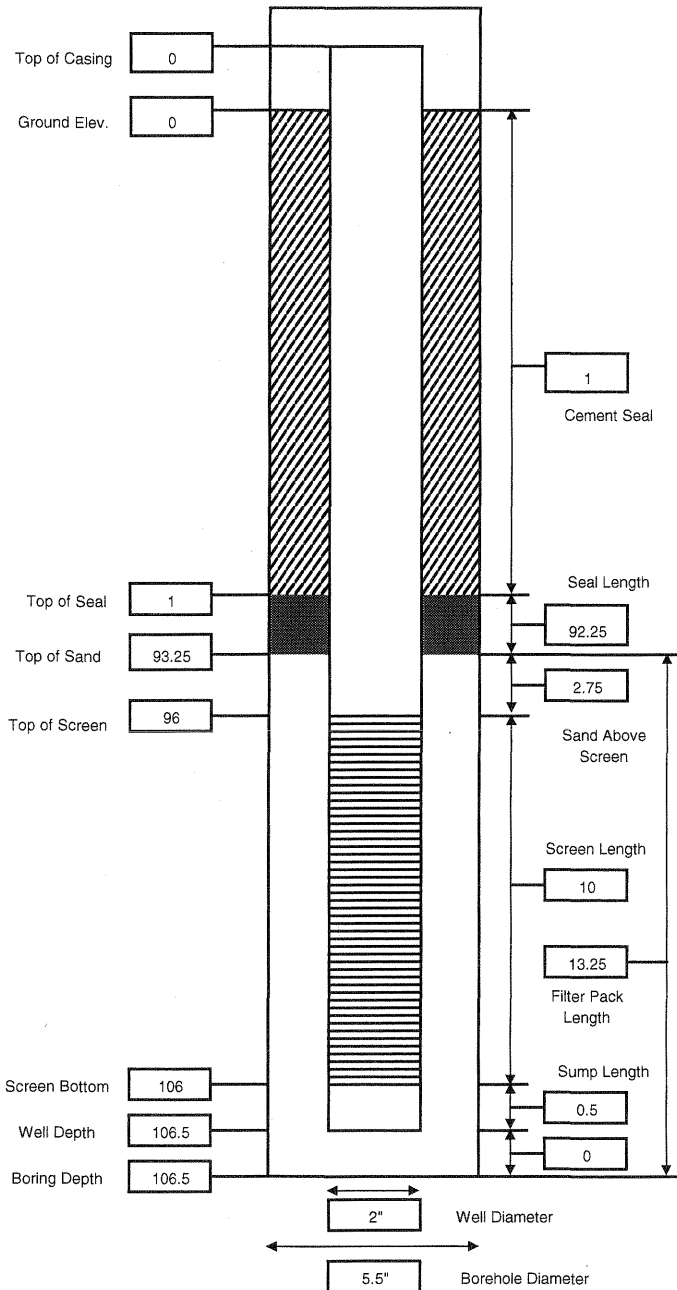
Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Comments:

Flush mount monument.



Project No.: 06-09-0002

Page 1 of 1

Project Name: Euclid Road TCE Monitoring

Date: October 22, 2007

Depth (feet)	Sample Interval	Time	Blows/6 in.	Lithologic Description	Symbolic Log	% Recovery	ASTM Code	OVA Headspace (ppm)	Comments
0				Light brown clayey silt, dry.					
10				Silty clay, light brown, dry.					
15				Damp, dark brown silty clay with some basalt fragments.					
25-27				Dark gray weathered basalt with clayey silt, dry.					
30				Light gray hard basalt.					
45									
60									
75									
89				Silty gray clay lens, light brown, damp.					
90				Dark brown vesicular basalt, damp.					
91				Small gravel sized basalt with silt and clay, weathered basalt.					
97				Water hit at 97 feet bgs.	▼				
105.0									
106.5				Bottom at 106.5 feet bgs.					

# WELL CONSTRUCTION LOG MW-06

Site Name: Euclid Road TCE Monitoring

Well ID: MW-06

Drilling Company: Environmental West, Inc.

Geologist/Engineer: Eileen Kollins

Date: October 23, 2007

Drilling Method: Air Rotary

## Well Construction:

Material: Schedule 40 PVC

Casing Diameter: 2"

Slot Size: 10

Type/Length: \_\_\_\_\_

Filter Pack: 10/20

Type/Brand: Sand

Amount: \_\_\_\_\_

## Seal:

Type/Brand: Bentonite Chips

Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Cement Seal:

Type/Brand: \_\_\_\_\_

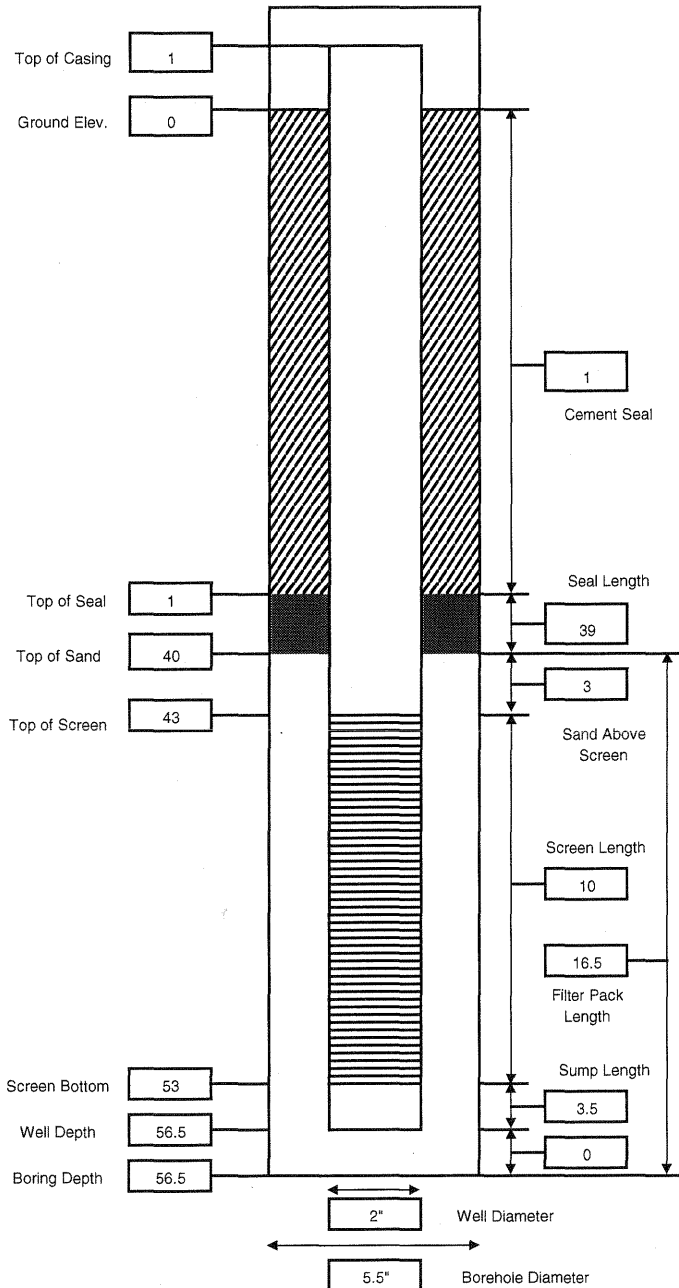
Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Comments:

Monument 12" above ground. Gravel  
was built up around casing in order to  
make it flush mount.



Ecology and Environment, Inc.

**BORING LOG**      MW-06

Project No.:	<u>06-09-0002</u>	Page	<u>1</u>	of	<u>1</u>
Project Name:	<u>Euclid Road TCE Monitoring</u>	Date:	<u>October 23, 2007</u>		

Depth (feet)	Sample Interval	Time	Blows/6 in.	Lithologic Description	Symbolic Log	% Recovery	ASTM Code	OVA Headspace (ppm)	Comments
0				Top soil, brown clayey silt with 40% small gravel (basalt), dry.					
3				Gray and black hard basalt, dry.					
10									
20									
30									
40									
45				Water at 45 feet bgs. Black vesicular basalt/wet.	▼				
50				Weathered basalt.					
56.5				Bottom of hole.					
60									



# WELL CONSTRUCTION LOG MW-07

Site Name: Euclid Road TCE Monitoring

Well ID: MW-07

Drilling Company: Environmental West, Inc.

Geologist/Engineer: Eileen Kollins

Date: 10/23&24/2007

Drilling Method: Air Rotary

## Well Construction:

Material: Schedule 40 PVC

Casing Diameter: 2"

Slot Size: 10

Type/Length: \_\_\_\_\_

Filter Pack: 10/20

Type/Brand: Sand

Amount: \_\_\_\_\_

## Seal:

Type/Brand: Bentonite Chips

Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Cement Seal:

Type/Brand: \_\_\_\_\_

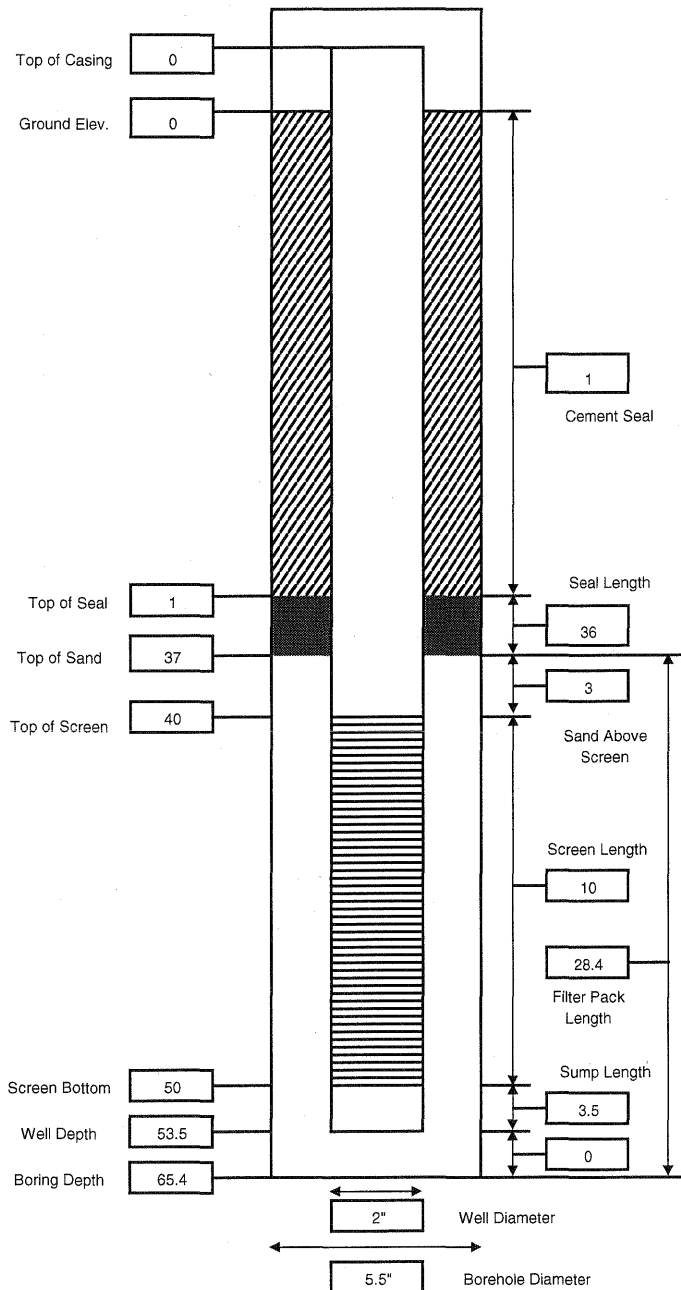
Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Comments:

Flush mount monument.



Ecology and Environment, Inc.

**BORING LOG**      MW-07

Project No.:	<u>06-09-0002</u>	Page	<u>1</u>	of	<u>1</u>
Project Name:	<u>Euclid Road TCE Monitoring</u>	Date:	<u>10/23&amp;24/2007</u>		

Depth (feet)	Sample Interval	Time	Blows/6 in.	Lithologic Description	Symbolic Log	% Recovery	ASTM Code	OVA Headspace (ppm)	Comments
1				Top soil, brown silty clay, damp					
10				Basalt fragments with silt, dry					
12				Gray weathered basalt, dry					
15									
20									
25				Like above with interbedded clay lenses					
30									
38				Weathered basalt with silty clay, moist					
40									
43				Water hit, weathered basalt with silty clay	▼				
50									
60									
65.4				Bottom of hole					

# WELL CONSTRUCTION LOG MW-08

Site Name: Euclid Road TCE Monitoring  
 Well ID: MW-08  
 Drilling Company: Environmental West, Inc.  
 Geologist/Engineer: Eileen Kollins

Date: October 24, 2007  
 Drilling Method: Air Rotary

## Well Construction:

Material: Schedule 40 PVC

Casing Diameter: 2"

Slot Size: 10

Type/Length: \_\_\_\_\_

Filter Pack: 10/20

Type/Brand: Sand

Amount: \_\_\_\_\_

## Seal:

Type/Brand: Bentonite Chips

Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Cement Seal:

Type/Brand: \_\_\_\_\_

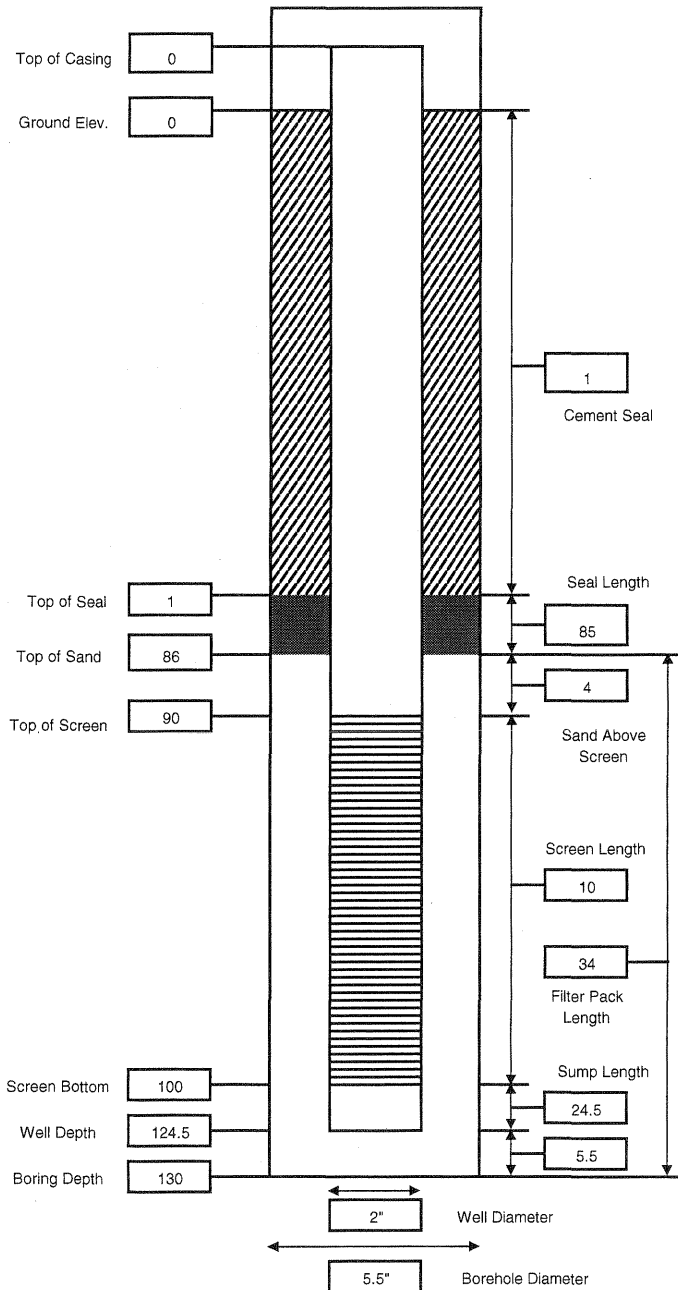
Amount: \_\_\_\_\_

Vol. Fluid: \_\_\_\_\_

Set-up Time: \_\_\_\_\_

## Comments:

Flush mount monument.



## Ecology and Environment, Inc.

## BORING LOG MW-08

Project No.: 06-09-0002

Page 1 of 1

Project Name: Euclid Road TCE Monitoring

Date: October 24, 2007

Depth (feet)	Sample Interval	Time	Blows/6 in.	Lithologic Description	Symbolic Log	% Recovery	ASTM Code	OVA Headspace (ppm)	Comments
0				Top soil, dark brown silty clay.					
8				Very dark brown clayey silt, dry w/some basalt weathered fragments					
11				Dark brown weathered basalt as fine gravel with clayey silt					
20									
22				Like above but damp					
25				Dark brown weathered basalt (fine gravel) with silty clay, damp					
35				Gray weathered basalt, dry					
40									
60									
65				Same as above but damp					
80									
96.5				Ground water encountered. See note below.	▼				
100				Gray hard basalt, dry					
110				Gray silty clay, damp					
120				Hard gray silty clay, dry					

[illegible]

**APPENDIX B**  
**WELL SURVEY INFORMATION**

**Ecology and Environment, Inc.**

720 Third Avenue, Suite 1700

Seattle, Washington 98104

**Euclid Road Site, Reardan, Washington**

Surveying Services Project No. 002233.0117.01SF

TDD No. 06-09-0002

Description	Northing US Feet	Easting US Feet	Ground Elev.	Inner Casing Elev.	Outer Casing Elev.
MW-01	266907.1	2406315.9	2421.4	2420.95	2421.45
MW-02	266087.0	2406450.1	2452.1	2451.78	2452.12
MW-03	266088.7	2405731.9	2470.3	2470.09	2470.33
MW-04	265793.8	2406429.2	2448.3	2448.06	2448.31
MW-05	267432.7	2404262.4	2492.7	2492.40	2492.75
MW-06	267135.0	2405052.7	2454.4	2454.03	2454.43
MW-07	265964.1	2404693.1	2473.1	2472.63	2473.10
MW-08	265894.9	2407763.7	2401.9	2401.54	2401.94

**Existing Control**

NGS-HARN "DEEP"	250430.76	2404388.41	2420.04
-----------------	-----------	------------	---------

**Notes:**

1. Field work performed by White Shield, Inc., Pasco, WA on December 27, 2007
2. Horizontal Datum: Washington Coordinate System, South Zone, NAD 83 (2007), US Survey feet. Coordinates established with RTK GPS with corrections from the Washington State VRS Network and calibrated to NGS-HARN "DEEP" (0.1' difference from raw broadcast)
3. Vertical Datum, NAVD 1988, feet Elevations established with RTK GPS with corrections from the Washington State VRS Network and calibrated to NGS-HARN "DEEP" (0.1' difference from raw broadcast)
4. Station DEEP is located, about 7 miles east southeast of Reardan, 1 mile west of Deep Creek, along U.S. Highway 2 at Wood Road. Station mark, stamped DEEP 1950, is a standard bronze disk set in the top of a 10 inch square concrete post that projects 4 inches above the ground. It is about 105 yards north of the Highway 2, 30 feet east of the centerline of the graveled road, 4 feet west of a fence line and 7.48 feet south of a witness post.

**APPENDIX C**  
**WATER LEVEL ELEVATIONS**



Table 1

**GROUND WATER ELEVATION DATA  
EUCLID ROAD TCE MONITORING SITE  
REARDAN, WASHINGTON**

	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08
<b>Total Depth (feet bgs)</b>								
	66	96	113.5	103	106.5	56.5	53.5	105
<b>Well Screen Elevation Depth Range (feet bgs)</b>								
	55 - 65	85 - 95	93 - 113	91 - 101	96 - 106	43 - 53	40 - 50	90 - 100
<b>Measuring Point Elevation (feet amsl)</b>								
	2,420.95	2,451.78	2,470.09	2,448.06	2,492.40	2,454.03	2,472.63	2,401.54
<b>Depth to Water (feet bgs)</b>								
November 2005	38.27	69.92	86.75	66.57	---	---	---	---
March 2006	30.90	63.12	79.70	59.81	---	---	---	---
September 2006	33.33	65.17	80.10	61.00	---	---	---	---
December 2006	32.60	64.50	80.70	61.00	---	---	---	---
April 2007	30.10	62.00	78.16	58.70	---	---	---	---
October 2007	35.14	66.32	82.66	62.90	31.51	33.65	36.02	70.90
<b>Depth to Water (feet amsl)</b>								
November 2005	2382.68	2381.86	2383.34	2381.49	---	---	---	---
March 2006	2390.05	2388.66	2390.39	2388.25	---	---	---	---
September 2006	2387.62	2386.61	2389.99	2387.06	---	---	---	---
December 2006	2388.35	2387.28	2389.39	2387.06	---	---	---	---
April 2007	2390.85	2389.78	2391.93	2389.36	---	---	---	---
October 2007	2385.81	2385.46	2387.43	2385.16	2460.89	2420.38	2436.61	2330.64

Note: the measuring point elevation is the north side of the top of the inner casing at each well.

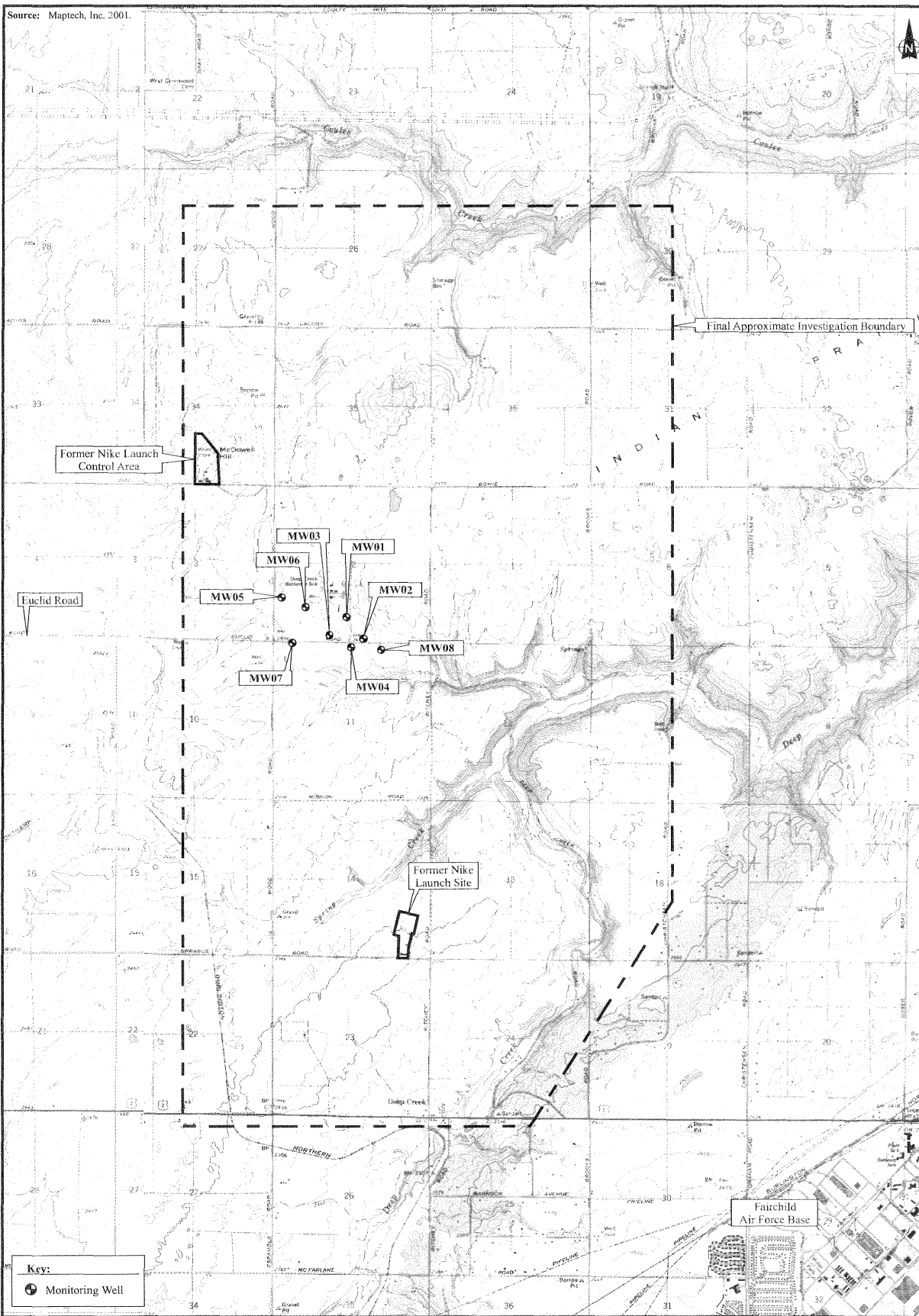
**Key**

amsl - above mean sea level

bgs - below ground surface

**APPENDIX D**  
**POTENTIOMETRIC SURFACE ELEVATION MAPS**

Source: Maptech, Inc. 2001.



**ecology and environment, inc.**  
International Specialists in the Environment  
Seattle, Washington

**EUCLID ROAD GROUNDWATER SITE**  
Reardan, Washington

0 1538 3076  
Approximate Scale in Feet

**MONITORING WELL LOCATIONS**

Date:  
2/26/08

Drawn by:  
AES

10:START-306090002:mon well loc

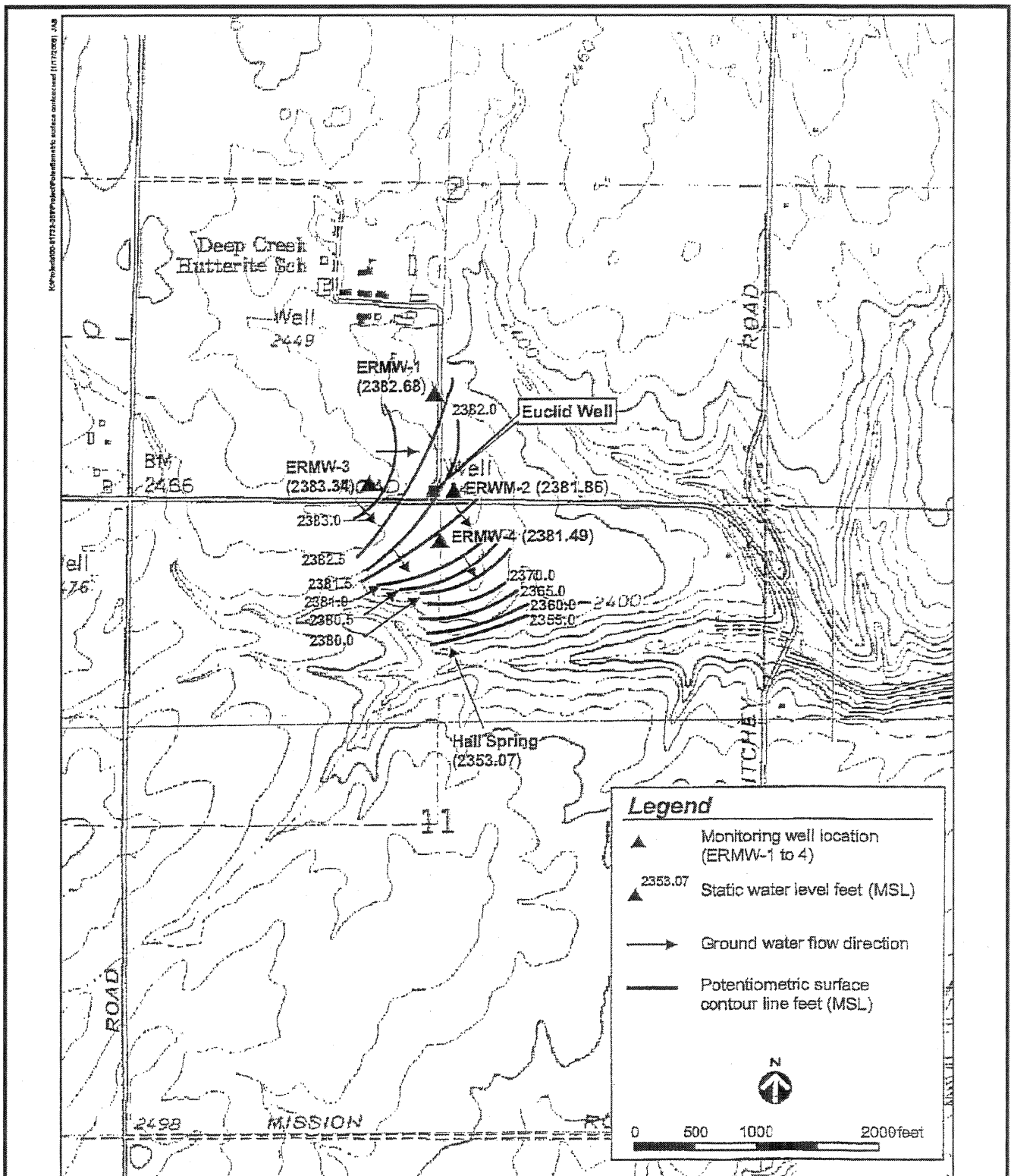

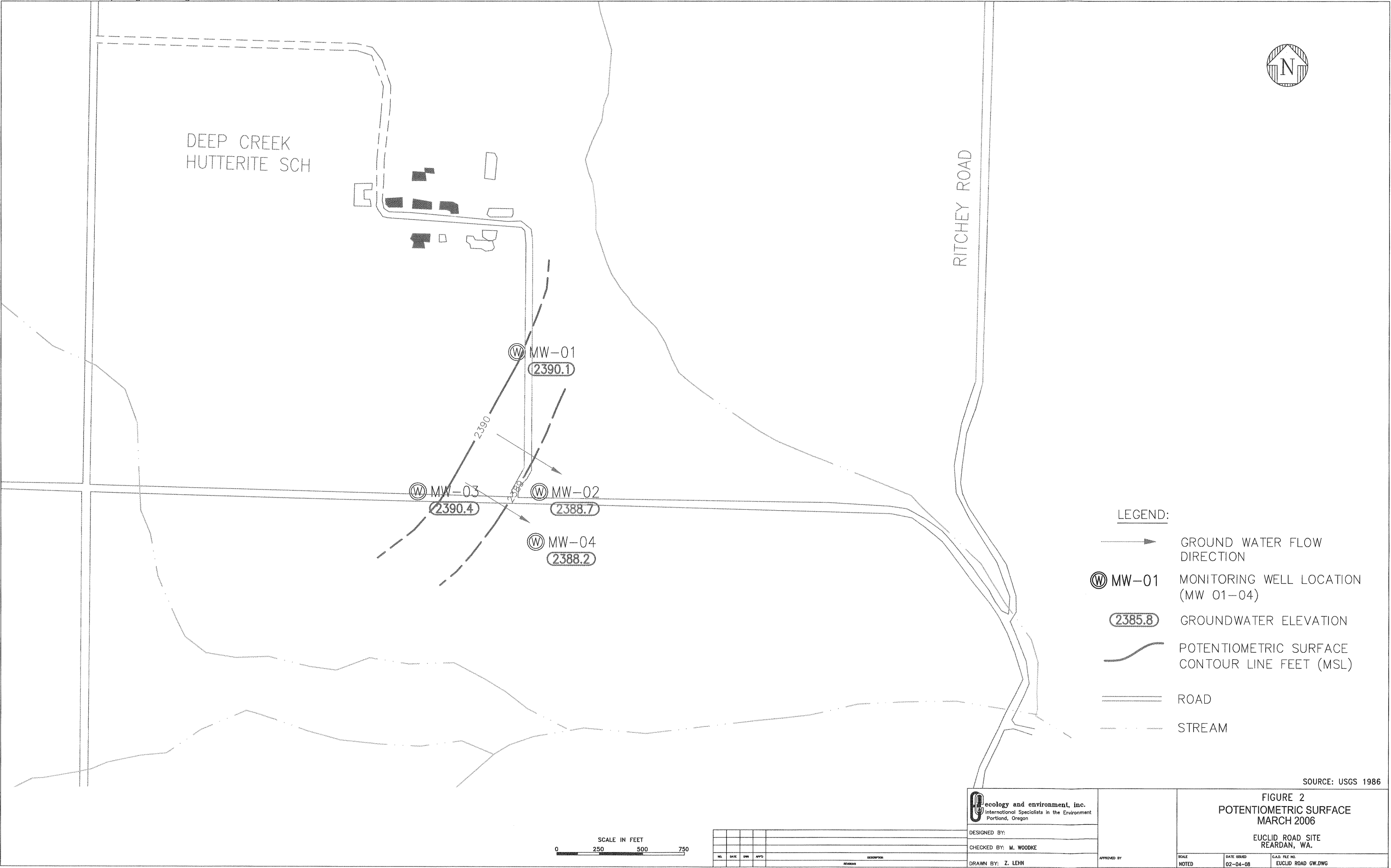
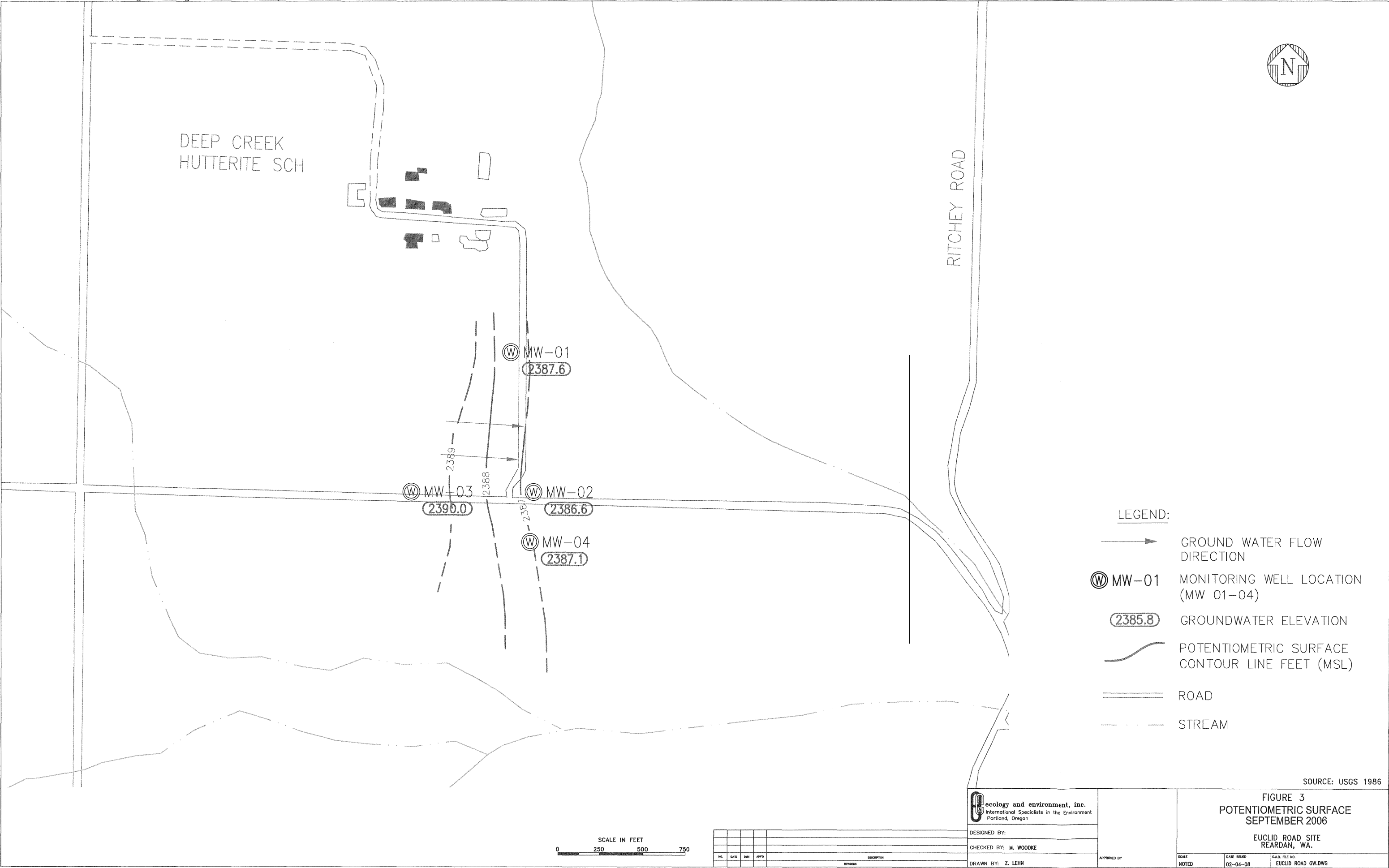
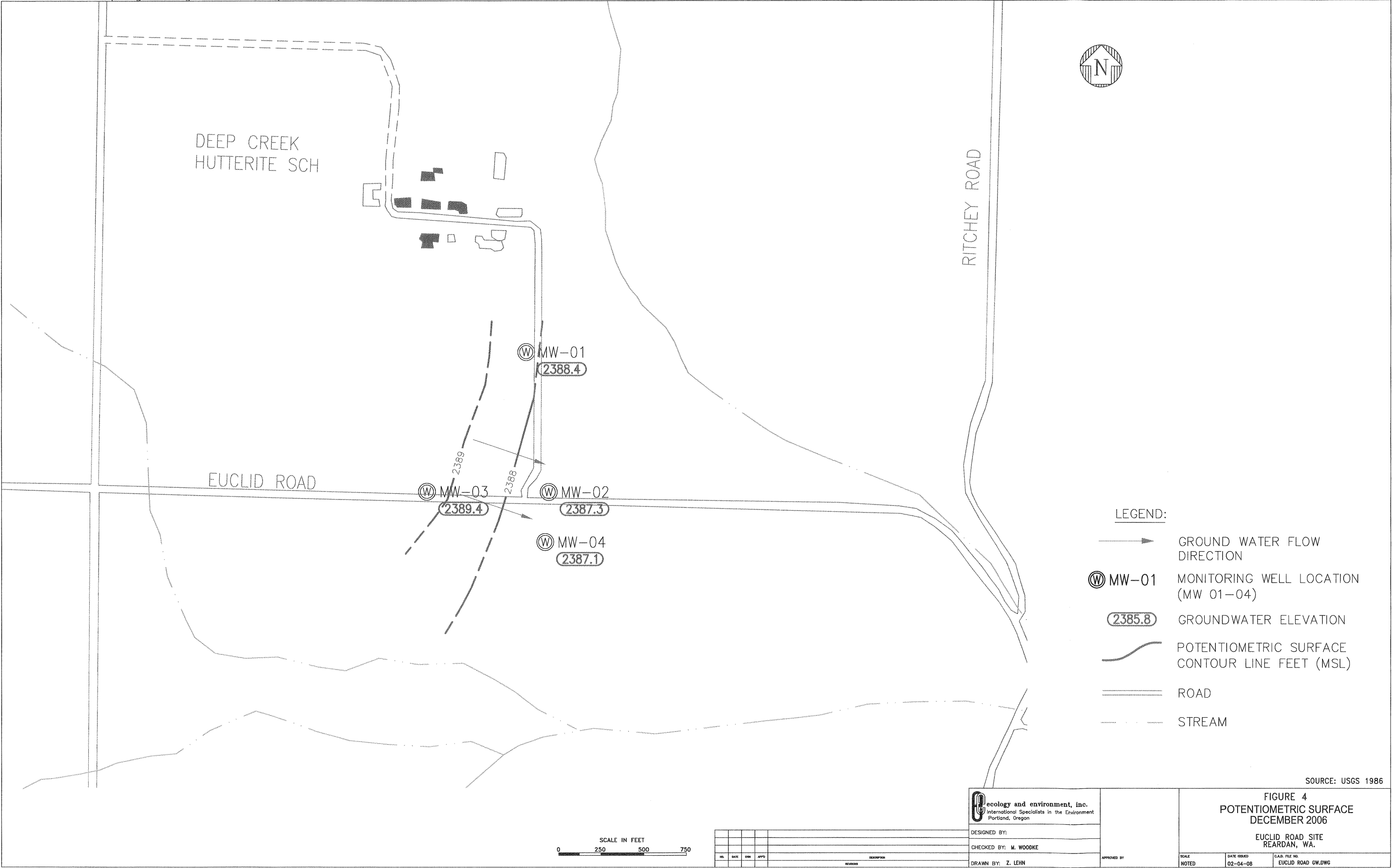


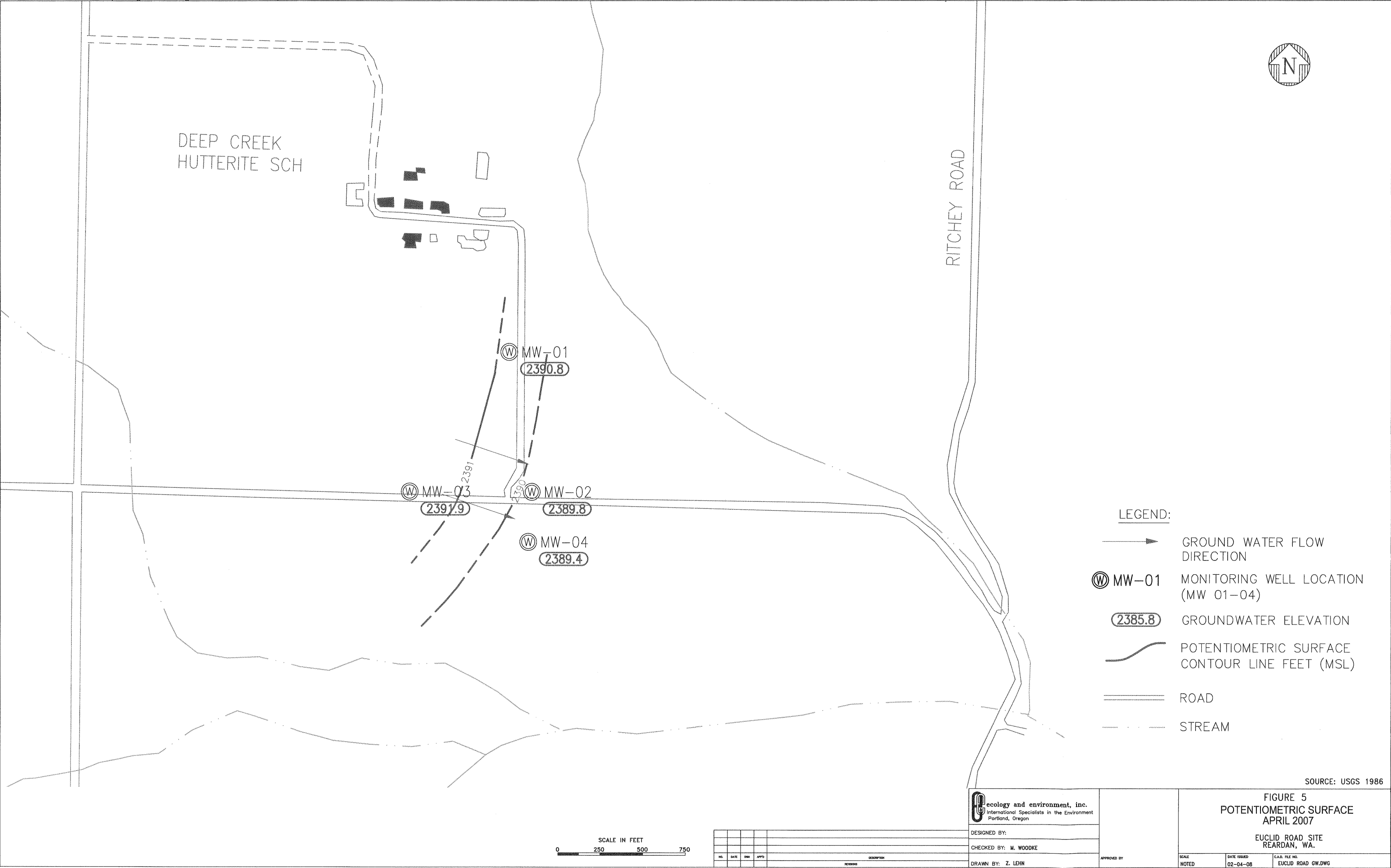
Figure 4-2. Potentiometric surface contour map of the Euclid Road ground water site, Spokane County, Washington.

 <b>ecology and environment, inc.</b> International Specialists in the Environment Seattle, Washington	EUCLID ROAD GROUNDWATER SITE Reardan, Washington		Figure 1 NOVEMBER 2005 GROUND WATER FLOW DIRECTION	
	Source: Herrera 2006.	Date: 3-10-08	Drawn by: AES	10:START-3\06090002\appendix fig 1

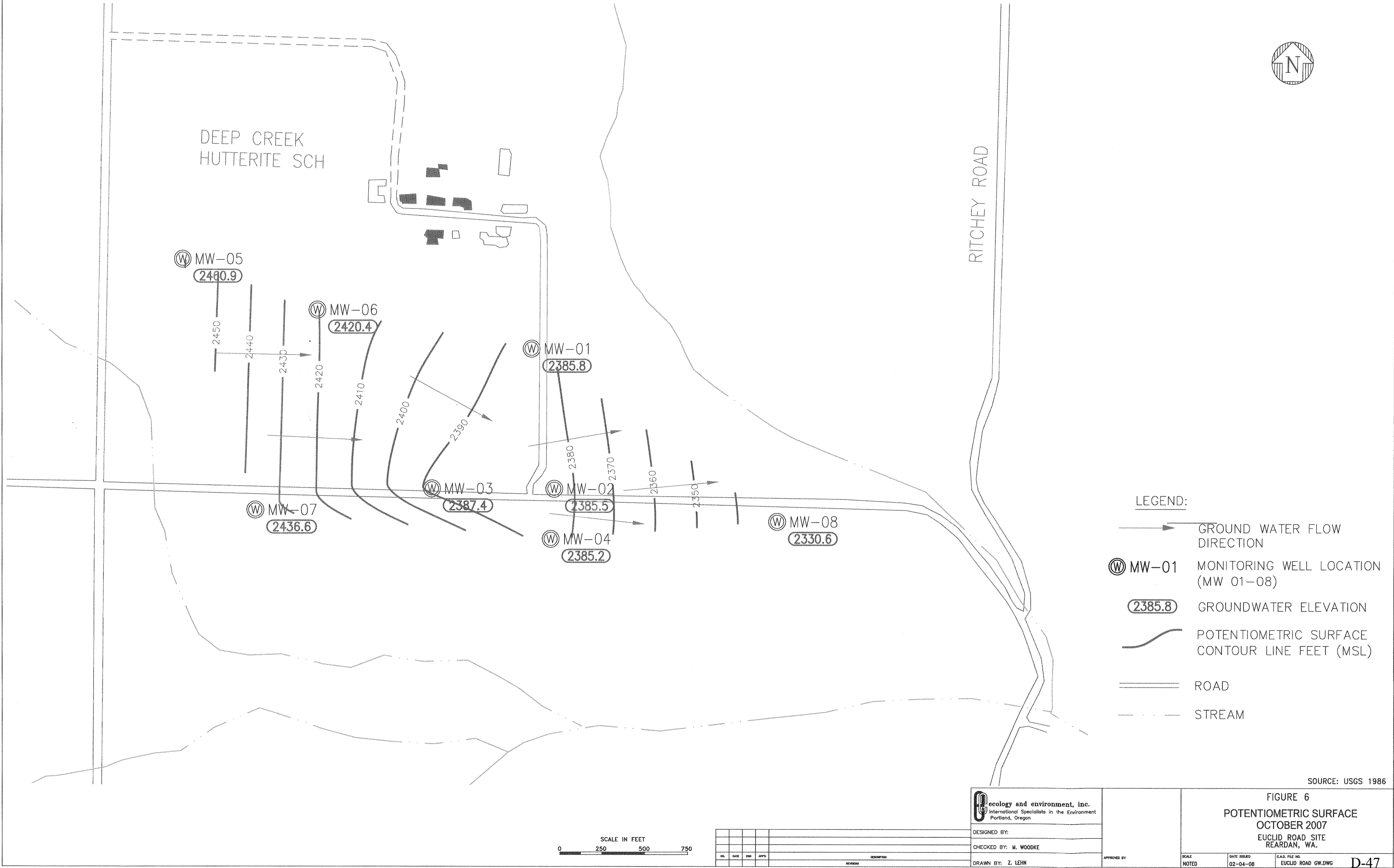












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**E**

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# **Hydrological Evaluation Report**

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## ecology and environment, inc.

International Specialists in the Environment

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1950 Commonwealth Lane

Tallahassee, Florida 32303

Tel. (850) 574-1400, Fax: (850) 574-1179

August 23, 2006

Mr. Calvin Terada, On-Scene Coordinator  
United States Environmental Protection Agency  
1200 Sixth Avenue, Mail Stop ECL-116  
Seattle, Washington 98101

**Re: Euclid Road Groundwater Site Hydrogeologic Evaluation**

Dear Mr. Terada:

Ecology and Environment, Inc. (E & E) is submitting to the United States Environmental Protection Agency this final letter report of a hydrogeologic evaluation for the Euclid Road Groundwater Site. The hydrogeologic evaluation included a review of available driller's logs for private supply wells located in the project area and evaluation of the elevations of water-bearing zones and water levels in the wells for which well logs were reviewed. In addition, available groundwater analytical data was reviewed to determine whether any spatial relations between the detected contaminants and detected contaminant concentrations could be identified.

**Evaluation Activities**

Driller's logs obtained from the Washington State Department of Ecology well log website (<http://www.ecy.wa.gov/programs/wr/wells/wellhome.html>) for 24 private supply wells from which groundwater analytical data are available were used for the evaluation. In addition, two springs and monitoring wells MW01 through MW04 installed in November 2005 (Emergency Sampling Report; Herrera 2006) were included in the evaluation. Elevations of water-bearing zones and water levels in the wells reported on the driller's logs were determined relative to land surface elevations obtained from United States Geological Survey topographic maps or from the Herrera 2006 report. Well construction details, water-bearing zone elevations, and water level elevations for the wells included in the evaluation are presented in Table 1.

Trichloroethene (TCE), *n*-Nitrosodimethylamine (NDMA), and perchlorate analytical results for groundwater samples collected by E & E from wells in the project area between October 2004 and November 2005 (Herrera 2006), and in March, April, May, and June 2006 were evaluated in an attempt to identify any spatial relationships between contaminant occurrences.

**Discussion**

Total depths of the potable wells used in the evaluation vary widely, ranging from 80 feet to 575 feet. Based on the reviewed driller's logs, potable wells in the project are generally constructed with relatively shallow casings (typically 20 to 40 feet) that are grouted in place (termed 'sealed' on the driller's logs). The wells are then drilled across multiple water-bearing zones and then completed either open hole, or with a smaller diameter inner casing (termed 'liner' on the driller's logs). Based on the reviewed driller's logs, a liner, when installed, is not sealed in the borehole

below the sealed casing and may or may not be perforated below the sealed casing. Because the liner is not sealed in the borehole, all water-bearing zones crossed by the borehole can yield water to the well through the bottom of the liner and through perforations in the liner, when present. Consequently, many of the wells appear to be open to multiple water zones. The water-bearing zones reported on the driller's logs occur at elevations that vary widely and do not appear to be correlatable across the project area.

Elevations of water levels reported on the driller's logs for the reviewed wells vary widely (range from 2,206 to 2,502 feet relative to mean sea level). Because many of these wells are open to multiple water-bearing zones that likely have different water levels, water levels in these wells likely represent an "average" water level that is not representative of any of the water-bearing zones tapped by the well. Consequently, these water levels likely do not represent water level elevations of any single, regionally extensive water-bearing zone and, therefore, do not appear to be usable for determining groundwater flow directions in the project area.

Based on the available analytical data, TCE groundwater contamination appears to be limited to a relatively small portion of the project area which consists of the southern and northern halves, respectively, of Sections 2 and 11, Township 25 North, Range 40 East. Within this area, TCE has been detected in four monitoring wells and six private supply wells at concentrations ranging from 0.24 to 210 micrograms per liter ( $\mu\text{g/l}$ ). Total depths of the monitoring wells range from 65.5 feet to 113.5 feet, and each well is screened across the uppermost water-bearing zone encountered at the well location based on well logs provided in Herrera (2006). These water-bearing zones occur at depths ranging from 57 to 96 feet below ground surface which corresponds to elevations of 2,352 to 2,374 feet above mean sea level (see Table 1). Total depths of the private supply wells in which TCE has been detected range from 140 feet to 400 feet. Based on the reviewed well logs for private supply wells within this area, it is probable that the private supply wells in which TCE has been detected are completed across multiple water-bearing zones. Consequently, a potential exists that TCE groundwater contamination detected in these wells may reflect the presence of TCE contamination in multiple water-bearing zones within the area. The available analytical data do not appear sufficient to determine the extent of TCE contamination within this area.

NDMA and perchlorate have been detected in groundwater samples sporadically over the entire project area. Based on the available analytical data, NDMA detections are more limited than the perchlorate detections in groundwater. NDMA has been detected in 33 private supply wells in the project area at concentrations ranging from estimated concentrations of 0.0005  $\mu\text{g/l}$  to 0.0071  $\mu\text{g/l}$ . Perchlorate has been detected in 60 private supply wells and four monitoring wells in the project area. The detected perchlorate concentrations range from an estimated concentration of 0.0078  $\mu\text{g/l}$  to 3.2  $\mu\text{g/l}$ . The detected NDMA and perchlorate concentrations do not exhibit identifiable distribution trends across the project area.

Of the 28 wells listed in Table 1 for which analytical data is available, NDMA was detected in eight private supply wells, and perchlorate was detected in nine private supply wells and four monitoring wells. Both NDMA and perchlorate were detected in seven of the private supply wells. Total depths of the wells in which NDMA has been detected range from 80 to 280 feet. In contrast, the total depths of wells in which perchlorate has been detected range from 65.5 to 575 feet. In addition, the total depths of wells in which both NDMA and perchlorate have been detected range from 80 to 280 feet. The observed well depth ranges suggest perchlorate may be present in groundwater over a greater vertical extent than NDMA. It is unclear whether these

contaminant/well depth relationships reflect real or only apparent contaminant distributions in the project area, given that the set of wells in which these contaminant/well depth relationships were identified represent a limited subset all the wells in which NDMA and/or perchlorate have been detected in the project area.

In addition, it is unclear whether the occurrence of NDMA and perchlorate in groundwater at the site may be related to a common source for both contaminants. In contrast, the limited extent of detected TCE groundwater contamination in the project area suggests the TCE source is unrelated to the source(s) of NDMA and perchlorate.

### **Conclusions**

If further information regarding contaminant distributions and site hydrogeology is required, additional monitoring wells would need to be installed and sampled. The monitoring wells would need to be constructed to target specific water-bearing zones so that contaminant distributions can be identified within specific zones and hydraulic relationships within and between water-bearing zones can be established.

If you have any questions or comments regarding the hydrogeologic evaluation, please contact me at (850) 574-1400 or Mark Woodke at (206) 624-9537.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.



Dan W. Foss  
Hydrogeologist

cc: M. Woodke; E & E - Seattle  
D. Shivjani; E & E - Seattle

Table E-1

Euclid Road Groundwater Site - Well Construction Details and Water Level Elevations

Name	Address	Ground Elev. (feet AMSL)	Well Depth (feet BGS)	Casing Interval (feet BGS)	Liner Interval (feet BGS)	Perf. or Screened Interval (feet BGS)	Water Depth (feet BGS)	Water Elev. (feet AMSL)	WBZ Depth (feet BGS)	WBZ Elevation (feet MSL)
(b) (6)	23717 West Bowie Lane	2,550	320	+2-38	5-50	50-70	50	2,502	Not Noted on Log	na
					70-320	230-310				
	8311 North Wood Road	2,300	140	+2-25 Seal 0-18	20-140	120-140	25	2,277	125	2,175
	6003 North Wood Road	2,550	250	+1-19	None	Open Hole	Not Noted on Log		Not Noted on Log	
	22315 North Jacobs Road	2,450	575	+1-59	5-575	None	62	2,389	120	2,330
	4101 North Ritchey Road	2,445	300	+1.5-18.5	10-300	260-300	75	2,371.5	64-73	2,372-2,381
184-187									2,258-2,261	
187-227									2,218-2,258	
ERMW-01 (Hutterian Brethren)	3610 North Wood Road	2,421	65.5	0-55.5	None	55-5-65.5	40	2,381	57	2,364
ERMW-02 ((b) (6))	na	2,452	95.5	0-85.5	None	85.5-95.5	70.9	2,381.1	88	2,364
ERMW-03 (Hutterian Brethren)	3610 North Wood Road	2,470	113.5	0-93.5	None	93.5-113.5	87.5	2,382.5	96	2,374
ERMW-04 ((b) (6))	22625 West Euclid Avenue	2,448	101.5	0-91.5	None	91.5-101.5	67.8	2,380.2	96	2,352
(b) (6)	8018 North Wood Road	2,280	80	+1.5-38.5	None	Open Hole	30	2,251.5	42-48	2,232-2,238
				Seal 0-18					52.5-53	2,227-2,227.5
	2220 Deep Creek Rd	2,180	180	+2-105 Seal 0-23	3-180	140-180	10	2,172	Not Noted on Log	
	22625 West Euclid Avenue	2,353	na	na	na	na	0	2,353	0	2,353
	22625 West Euclid Avenue	2,356	140	+1-19	6-140	110-140	50	2,307	Not Noted on Log	
	23103 West Alki Lane	2,398	160	+2-18	5-160	140-160	60	2,340	80	2,318
143-160									2,238-2,255	
45-51									2,354-2,360	
110 North Ritchey Road	2,405	320	+1-39	to 320	None	200	2,206	271-285	2,120-2,134	
								302-303	2,102-2,103	
Hutterian Bretheren	3610 North Wood Road	2,440	400	+1-22	None	Open Hole	40	2,401	63-66	2,374-2,377
									84-92	2,348-2,356
									223-248	2,192-2,217
									386-394	2,046-2,054
Hutterian Bretheren Livestock Well	3610 North Wood Road	2,460	300	+1-146 Seal 0-18 ft	to 300	None	125	2,336	Not Noted on Log	
(b) (6)	6610 North Wood Road	2,500	460	+2-18	10-460	420-460	200	2,302	14-16	2,484-2,486
									446-457	2,043-2,054
	22812 West Sprague Road	2,391	115	+1-19	None	Open Hole	30	2,362	57-69	2,322-2,334
									73-82	2,309-2,318
									94-96	2,295-2,297
									103-104	2,287-2,288
									Not Noted on Log	
23212 West Sprague Road	2,360	80	+2-18	6-80	40-80	26	2,336	Not Noted on Log		
								23-37	2,343-2,357	
								93-97	2,283-2,287	
704 North Wood Road	2,380	150	+1-19	None	Open Hole	18	2,363	112-136	2,244-2,268	
								Not Noted on Log		
								2819A North Ritchey Road	2,880	143
2701 North Brooks	2,300	280	+1-53	6-280	240-280	140	2,161	138-142	2158-2162	
			Seal 0-18					250-254	2046-2050	
			259-265					2035-2041		
4202 North Wood Road	2,480	300	+2-98 Seal 0-18	None	88-98 & Open Hole	41	2,441	250-252	2,228-2,230	
1509 South Ritchey Road	2,280	140	+1.5-18.5	10-140	120-140	60	2,222	138	2,142	
2118 North Richey Road	2,340	200	+1-123.5	None	Open Hole	80	2,261	105-115	2,225-2,235	
			Seal 0-18					115-200	2,140-2,225	
6504 North Wood Road	2,500	473	+1-18	+1-359	Open Hole	187	2,314	280-300	2,200-2,220	
								454-464	2,036-2,046	
23912 West Jacobs Road	2,500	150	+1-19	10-150	None	38	2,463	92-102	2,398-2,408	
22901 West Euclid Avenue	2,455	150	+1-24	10-150	None	58	2,398	55-150	2,305-2,400	
22901 West Euclid Avenue	2,379	na	na	na	na	0	2,379	0	2,379	
Spring										

Key:

AMSL = Above mean sea level.

BGS = Below ground surface.

Elev = Elevation.

na = Not Applicable.

Perf. = Perforated.

WBZ = Water-bearing zone.